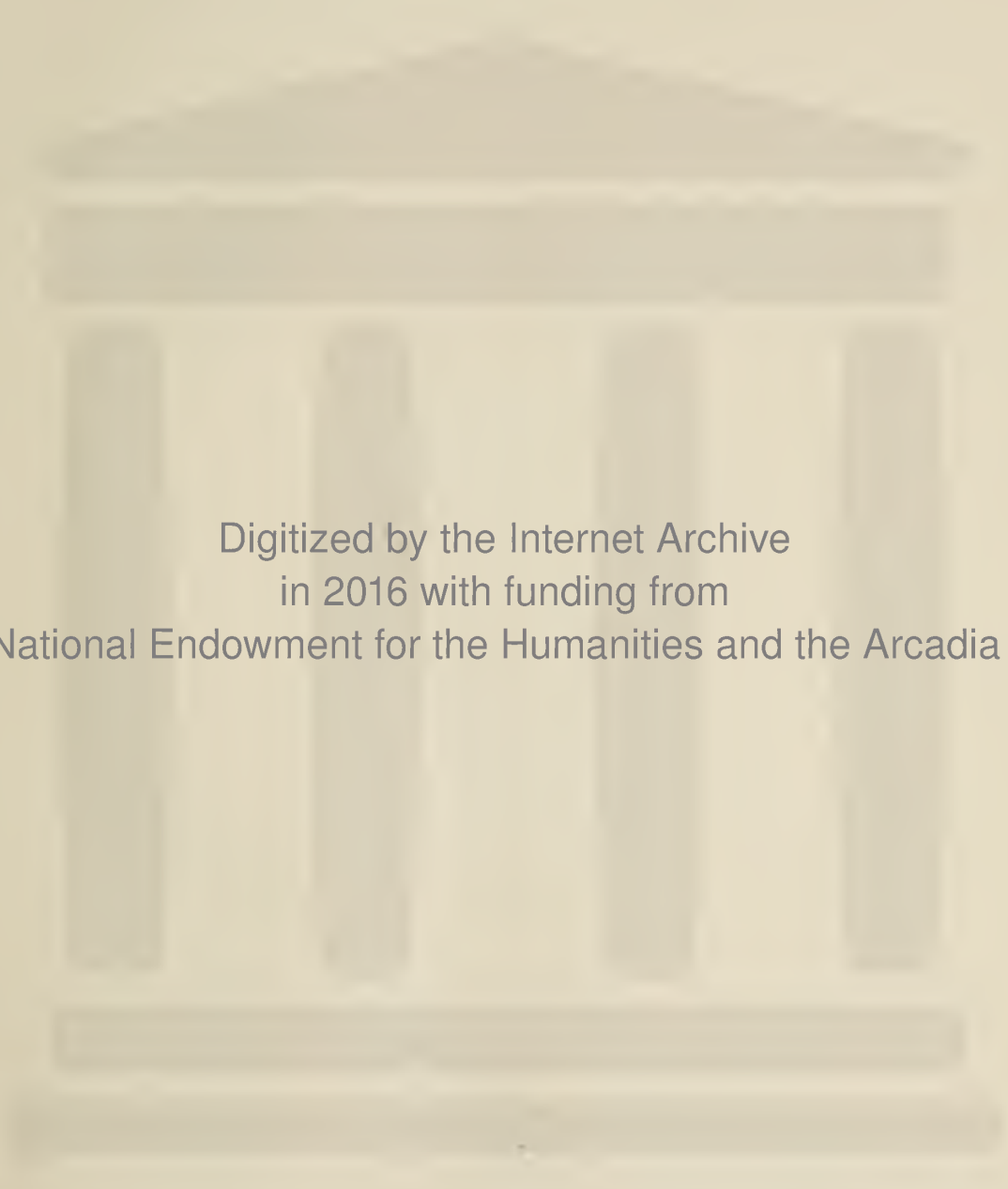


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THE MISSISSIPPI DOCTOR

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NO. 1



DR. HARVEY F. GARRISON

President-Elect of Mississippi State
Medical Association



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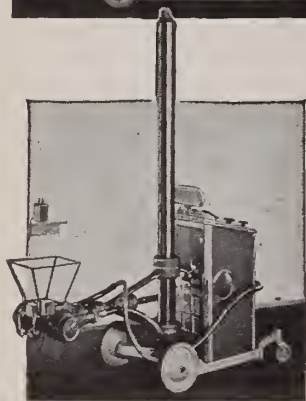
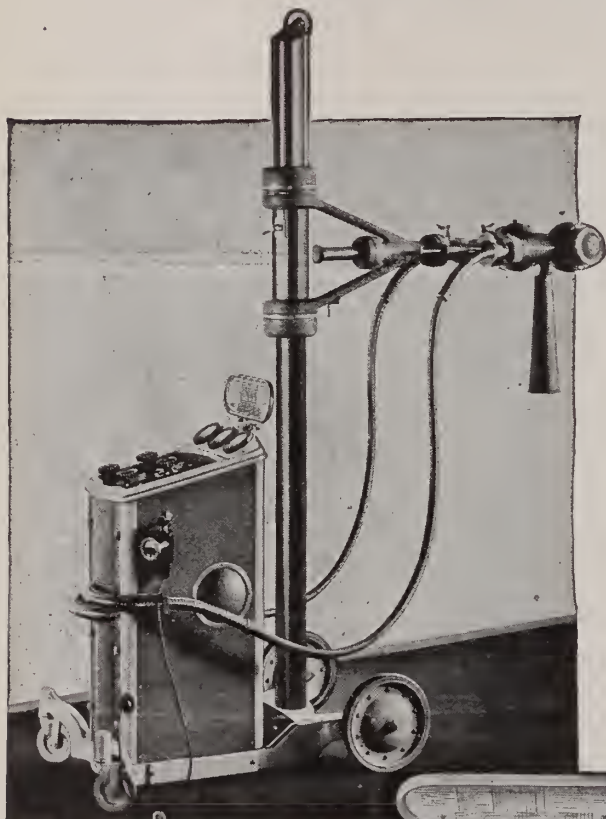
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EDITORIALS

Dr. Hugh Gamble, of Greenville, is now the active president of the Mississippi State Hospital Association. He is a progressive leader, but safe and cautious. Mississippi is well supplied with hospitals. Greenville, the home of Dr. Gamble, has one of the best. The standards of some of our hospitals needs to be raised to be sure, but even now they are doing good service. The machine age demands that we have a hospital in every county or every two or three counties throughout the nation. The hospitals we have are equipped to take care of a vast majority of our patients. The number of beds does not always count. We need greater financial security for our hospitals. Hospital insurance is right now before us. It is one of our major hospital hopes, we believe. It can be called another name if you like. Dr. Hugh Gamble will weigh all the evidence. He will lead us safely. He will secure action during the year. The medical profession is proud of Dr. Hugh Gamble as is the hospital association.

A hundred thousand go down yearly in this country from accidental death. Accidental death is no respecter of persons. The most active, the most valuable, in our human society pay a high toll. If we are to lower this destructive and disgraceful death rate the causes must be studied as we would that of contagious disease. When the survey is made and the truth is known, whiskey will be found to be the major cause it is quite sure. Poor vision and mental deficiency will come in for a share. Ignorance of the simplest safety rules will play a part. The lack of road courtesy will give the minister of the gospel plenty of cause to expatiate. Carelessness, driving without lights, with poor brakes, poor casings and an untrue steering gear must be given due consideration. The major portion of this problem is a challenge to the medical profession. We should meet this challenge and step out into the broad field of productive opportunity, productive of good to human society.

The work of Dr. Defoe should give much courage to the general practitioner, the corner stone of the medical profession. Mississippi and every other state have many Dafoes if the truth were known. We believe this. The Mississippi Doctor has preached it for years. His service has not been recognized as it should have been, but he has delivered the service. He shall be rewarded. He will yet come into his own. It is the high batting average of the average doctor treating the average every day disease of the rank and file that will change the sick face of the human earth. Glory and honor and admiration for our practitioners who are ever on the alert in the profession, who count every detail in their great calling of much importance. The American Medical Association should do honor to this class by electing one to the presidency of the association to indicate a long delayed appreciation and recognition.

Dr. E. C. Parker, gentle, kind, refreshing and systematic as the ways of the gulf presided over the Mississippi State Medical Association with ease and efficiency.

On Tuesday of this week the Dionne babies celebrated the first anniversary of their birthday. The five little Canadian girl babies are now one year old and going strong, for them. They are cutting teeth and beginning to crawl around. Never before in the history of the world have any five babies attracted so much attention as these. They owe their lives today, no doubt, to the careful nursing and treatment given them by the doctor and the nurses. Without this medical care the chances are many to one that they would not have lived. They were very small, very frail and were simply kept live by scientific care and treatment. This gives to the world a fine example of what can be done by careful nursing and constant medical attention. This is not the first time quintuplets have been born in the world but it is the first time in history that quintuplets have lived more than a few hours after birth.

A special law was enacted in that country making these babies the wards of the King and providing special guardians for their custody. The parents of the babies are allowed to see them but not to have anything whatever to do with them. The mother is not even allowed to take a close relative in to see the babies. One sad thing about this is that they will never know they had a mother, and perhaps will become more attached to the nurse than to the mother who gave them birth. They have been commercialized and their pictures have been sold to the newspapers and the movie shows until already there is in the bank to their credit a fund of \$150,000.00. If they live they should easily be worth a million each before they are grown. As soon as they can appear in person in shows and theaters they will be major attractions and reap a rich harvest of money. They are to be taught the French language and raised up in the Catholic church. The latest "argument" about them centers around the plan to have Catholic nuns take charge of them as their constant nurses.

Last week four little sisters, quadruplets, of Lansing, Michigan, celebrated their fifth birthday. They are strong, healthy and fine looking little girls. They are longing for next September to come around so they can start to school. They had a birthday party on their fifth anniversary and invited the Quintuplets to be their guests but the little sisters had to decline. In Oakland, Iowa, are three grown girls, sisters, triplets. They are in college at Columbia, Missouri, and will graduate in a few days. They are very much alike, very pretty and said to be very bright. In one school in Atlanta, Georgia, there are 26 sets of twins. And so it goes. Since the birth of the quintuplets thousands of prospective mothers over the country have taken out insurance against the possibility of twins, triplets, quadruplets and quintuplets.

Some one said to be more or less expert in the matter of getting up data along this line says that twins occur, on an average, of once in every 80 births, triplets once in 6,400 births, quadruplets once in 512,000 births and the Dionnes are the first quintuplets ever to be born and live.

It is a matter of record, however, that quintuplets have been born but never lived more than a few minutes, or few hours at most. In fact it is claimed that on an average once in every 30 years since history has been written quintuplets have been born. It is claimed that in the entire world every year 337,000

pairs of twins are born, 3,700 triplets and 65 quadruplets, and once in 30 years quintuplets come along but none but the Dionnes have ever lived.—Booneville Independent.

Dr. J. R. Hill, of Corinth, is now the full fledged president of the Mississippi State Medical Association. Dr. Hill will lead the association along safe lines. He will be active and wide awake. He will leave his impress on the society. We do not know just what he will make prominent in his administration, but it will be something worth while, something important. The pages of The Mississippi Doctor are his. We shall be glad for him to use them freely for the good of the association, for the good of organized medicine.

Better be operated for acute appendicitis by a country surgeon in a six bed hospital within six hours of the onset than by a Mayo in a six hundred bed thirty-six hours later which is about the average time for the average appendix. This is true because Dr. Time is the most successful surgeon who has yet operated for this the chief of abdominal ailments.

The next meeting of the Mississippi State Medical Society goes to Greenville, the capital of the Delta over on the Father of Waters, the home of the Gambles, the Mayos of Mississippi. In entertainment the Delta doctors are big and generous as the waters of the Mississippi are wide and deep.

The leadership of the State Medical Association of Arkansas was placed in safe and efficient hands when George B. Fletcher was selected as President-Elect. He has had plenty of training for this the highest honor in the gift of the society. He is worthy and well qualified in mind and heart.

Dr. C. D. Mitchell is now connected with the Veterans Hospital down at Gulfport. He likes his work. He will do it well. This is certain. He has been for many years a corner stone in our state medical society. Courty, courteous, grateful and able is Dr. Chas. D. Mitchell.

It is a Bible principle for the man who stays well to help the man who gets sick.

The Shadows have lengthened, the sun is set; another prince in the medical ranks has fallen. Our friend, associate and adviser, Dr. William Carroll Spencer, departed from us for a while on May 20, 1935, at the ripe age of 81 years, one month and one day.

For 45 years he served his fellowman faithfully and well; for 55 years he walked side by side with the faithful companion whom he leaves behind for a short season; for many years, he steered the barques of sons and daughters whom he leaves to rejoice in the exemplary life he lived before them.

For many years, he wore honorably the magic robe of Esculapius, only now to lay it aside for them who follow to wear it as untarnished as he.

His place will be hard to fill, we shall miss him. Our sympathies are with his bereaved.

BY THE DOCTORS OF TUPELO.

The Mississippi Doctor was made the official organ of the Mississippi State Medical Association at its last meeting in Biloxi to be effective January 1, 1936. This, of course, is deeply appreciated by the editor, and we believe by many others in this and adjoining states. This journal has served as a medium of expression of both the practitioner and the specialist. It has carried the ideas of many men on our medical problems. As editor, we have tried to pass on these ideas. It is the champion of the community hospital, the delivery of modern medicine to the masses at a reasonable cost. It has tried to show the importance of affiliation between the small hospital and the large, the general practitioner and the specialist, and closer co-operation between the physician, the nurse, the dentist and the pharmacist. It is also a strong believer in post graduate medical courses being brought out to the busy practitioner. We are deeply grateful to our own beloved society for its confidence in giving us a free hand with the journal. The Northeast Mississippi 13 County Medical Society has led the world we believe in the development of the community hospital. The Mississippi Doctor has tried to carry your ideas over into Macedonia. Friends multiplied over the state and in adjoining states have co-operated with their ideas, their papers, and their encouragement. We have loved the Mid-South Post Graduate Medical Assembly like a big brother and we appreciate the confidence it had in adopting the journal as its official organ even before our own state. We are thankful to and appreciative of the North Mississippi Medical Society. The Mississippi Doctor publishes papers from the busy practitioner out on the commercial firing lines, from the Dafoes of the profession, and it publishes the papers of the Mid-South, the best papers in the United States from the outstanding specialists and authorities. It is free to express medical thought that other journals might not be. It has about twenty-five of the best men in the field of medicine and surgery to be found in the Mid-South as regular contributors, and some men in the North and East. We want every friend to feel that The Mississippi Doctor is his journal, that he is responsible for its success. If we have any enemies we hope they will be fair and will be sympathetic. The medical profession can render more service to the nation within the next twenty-five years than any other profession on the earth. To do this it must be big and broad and unselfish. We must study, we must think, we must have courage, we must have brotherly cooperation. Service must be our measure of success. To every reader and to every advertiser we want to express our appreciation and we want to ask you most sincerely to continue to co-operate with the journal in going forward.

Let us all join hands on the level and practice cooperative medicine. Let the big hospital and the little one cooperate one with the other, let the practitioner and the specialist hold hands in brotherly cooperation. Give us united effort for the relief of the people and for the good of the profession.

A more thorough application of the known medical truths is now a very urgent need.

Some men are so busy preaching medical ethics that they don't have time to practice much of it.

Charity funds for the indigent sick should be distributed on a per capita basis throughout the state of Mississippi. This is fair and just and right. The man out at the cross roads and down by the old mill stand who has paid taxes all his life is entitled to service in a hospital if he is unfortunate enough to need charity as any one in any city. The idea of carrying a real sick patient two hundred miles to a hospital is out of the question. If he is charity he has no funds to get him to the hospital. If he had this much money he would not be a charity patient in a small hospital. He deserves to be treated at home near his loved ones. His family physician is better prepared often times to take care of him, his home surgeon. There was a time when a few charity hospitals in the cities were all right, but now when you can get a first class operation in almost any little town while you wait to get a puncture fixed our present system is out of date, as much so as a bull tongue plow and an ox cart. Modern medicine must be carried out to the commercial firing lines. This machine age of ours is demanding it. The small hospital can not carry the burden of charity that is asking for admittance. Charity funds for the actual and urgent indigent should be furnished by the national, state, and municipal governments augmented by church and philanthropy. These funds should be distributed on a per capita basis.

The number of beds in a hospital, the average number of patients may have something to do with the efficiency of a training school theoretically, but as a matter of fact it does not have so much. If there be a difference the twenty-five bed hospital is turning out better nurses than the five hundred bed. Ten patients can furnish more material than almost any nurse can study and learn in three years. We may have too many nurses, but we should find some other way to thin them out than to draw the line on the number of patients. The nurse who is taught to work, has a kind heart, and a generous soul comes more often from the smaller hospital. The number of small hospitals will be increased in the days to come in many states. The nurse who has been trained in the small hospital will better understand. Of course it is fine for her to go to the larger hospital and take post graduate work.

Some form of hospital insurance is most likely the answer to hospital service to the middle class. The principle is all right when practised by honest men. It is a Bible principle.

The medical profession needs to lend its aid to a study of means to reduce our hundred thousand accidental death rate. We need to study the relation of alcohol to automobile wrecks, that of poor eyesight, and mental deficiency.

DR. SEALE HARRIS

Gastro-intestinal and Nutritional Diseases
Diagnostician

2234 Highland Avenue
Birmingham, Alabama

Syncope and Sudden Death the Result of Disordered Heart Action*

T. K. LEWIS, M.D.
Birmingham, Ala.

To the lay person there are few conditions that portend more immediate danger than those conditions or illnesses accompanied by seizures which give as the main presenting symptoms attacks of fainting or syncope, unconsciousness, convulsive movements of certain muscles or groups of muscles or parts of the body or even the entire body, to the lay minds these attacks are best described under the term fits, a word which has come down to us from ancient times to describe all such seizures, the word was originally intended to designate the seizures of true Epilepsy, to the medical mind there are many such seizures which are in no way related to true Epilepsy, in the human subject these seizures are manifold. Etiologically there are many general types of these seizures, in a general way there may be said to be three general types.

1st. Those due to Kidney Pathology.

2nd. Those due to defects in the nervous system, the true Etiology of these are poorly known, hidden or even unknown, these are the true Epileptic seizures, and with which the lay mind associates all the related seizures.

3rd. Those due to Cardio-vascular condition. There

*Read before The Birmingham Medico-Surgical Club, March, 1934.

are of course many seizures that do not come within this classification as those due to Pancreatic dysfunction and those due to various glandular deficiencies. In all 3 types both major and minor seizures occur.

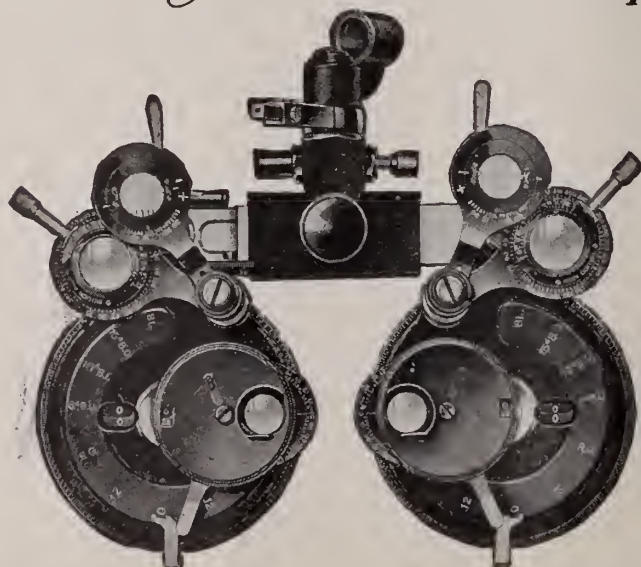
In this discussion we are interested only in those due to Cardio-vascular conditions the performance of the heart is the circulation of the blood, that is its aim and that is its end and as it achieves this purpose successfully or otherwise, do we get that peculiar property of life called consciousness.

In the (1) Cardio-vascular system type, the presenting symptoms are about as follows according to the length of the attack, pallor, transient giddiness, marked giddiness, dimness of vision, momentary loss of consciousness, convulsive movements of a single muscle, a small group of muscles, a large group of muscles, a single part of the body or even the entire body and if the attack should last long enough death as is seen in status epilepticus, in the cardio-vascular system type these symptoms are the result of a profound slowing or even a complete standstill of the entire Heart or the ventricles only.

Webster (2) writing in the Glasgow Hospital record 1901, from a study of the condition stated that the preliminary lapse of pulse beats which heralds the attack, the relation between the length of the standstill of the entire Heart or of the Ventricles and the duration and character of the accompanying nervous symptoms and finally the reappearance of the pulse some time before consciousness is restored teaches us that the unconsciousness is secondary to ventricular slowing or standstill or slowing or standstill of the entire heart, Sir James MacKenzie (3) in his book upon Heart diseases states that there are two kinds of card-

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iac action which tend to induce loss of consciousness, that in which the ventricles standstill that is Heart Block, and that in which they beat at such a fast rate that the output of the heart is greatly reduced as in Auricular Flutter, he does not mention the type where the entire heart standstill as in A-Systole.

Many authors studying this problem have shown thru case reports, that distinct time relations exist between the cardiac events upon the one hand, and the accompanying nervous phenomena upon the other hand. If (4) there is only a slight to moderate slowing there will be only a muddling of the consciousness a momentary incoherence possibly a slight dizziness, a dimness of vision, little happens. If the slowing or standstill is for say 4 to 6 seconds there will be usually a slight loss of consciousness, possibly a slight twitching of a small group of muscles respiration becomes deep, some slight pallor or slight cyanosis if for longer periods say 10 to 20 seconds there will be unconsciousness twitching or convulsive movements of a small group of muscles, respiration deepens becomes sighing in type and a definite cyanosis appears upon the skin surfaces and mucous membranes, if the slowing or standstill is from 30 to 50 seconds there will be marked convulsive movements, respiration at first deep and sighing which later becomes rapid and shallow, the pupils dilate, the mouth falls apart, the cyanosis of the skin surfaces and mucous membranes become markedly deepened, but recovery can yet occur, however if the heart beat ceases for as long as 90 to 120 seconds or one and a half to two minutes recovery has but rarely been reported, tho we must remember that these figures are variable for cerebral Anemiae like all other things in life is tolerated quite differently by different people. An actual case was reported by Hill (5) in 1900 of a case of Cardiac standstill in which the standstill lasted for approximately 100 seconds yet the patient recovered only to die later of a more prolonged standstill. Several (6) writers writing upon the subject suggests that the numerous cases which have been reported in Lay literature, and it is interesting to note that none of these cases have been reported in Medical literature, in which a mirror was placed before the mouth and nose and moisture noted on the mirror and which later recovered was some form of standstill of the heart and that possibly weak beats had been coming thru for sometime and a very slight shallow respiration had already been established—A standstill of the entire Heart is spoken of as A-Systole.

Experimental (7) (8) work and observation has shown that loss of consciousness convulsive movements pallor, sighing respiration follow copious bleeding whether experimental accidental or therapeutic and the presenting symptoms are pallor, dilatation of the pupils, twitching or convulsive movements, sighing deep respiration and these unquestionably result from an anemiae of the brain.

Kussmaul (9) and Tenner in 1910 showed that if in young adults or children the carotid arteries were firmly compressed over the carotid sheaths at the carotid sinus, thus occluding or stopping the flow of the blood to the brain, there resulted a pallor of the skin, giddiness, dilatation of the pupils, convulsive movements of the muscles, deep and sighing respiration later shallow respiration unconsciousness and that these were unquestionably the result of an anemiae

of the brain, now when we find the same symptoms associated with cardiac standstill or marked ventricular slowing, the reason for them is clear, that is there has developed an anemiae (10) of the brain, then the syncope or unconsciousness is caused by a deficient flow of blood from the heart to the brain, the defect may be either Cardiac or vascular, in the cardiac the pump fails to do its work adequately, the output of blood from the heart is disordered, in the vascular type the input of blood to the heart being diminished here there is a preliminary fall of general blood pressure if the pressure (11) falls to 60 or 50 MM of mercury the pulse becomes extremely feeble or imperceptible there is then a decreased return of blood to the heart.

An anemiae of the brain may be produced thru the cardio-vascular system in two ways.

- 1st. By an abruptly reduced inflow, as in the vascular type.
- 2nd. The inflow remaining the same or unchanged by a faulty ejection of blood from the left side of the heart.

In the first group the fainting of severe hemorrhage belongs, also those common fainting attacks, the so called Vaso-vagal (12) attacks, occurring from fright, fear, marked emotional disturbances, or in overheated or over crowded rooms, Hill (5) and Lahr have shown that these cases are the result of an acute dilatation of the Splanchnic arterial system, that is in these cases they actually bleed into their visceral vessels, the splanchnic arterial system suddenly relaxes to form a large potential reservoir into which the blood accumulates producing a faulty inflow into the heart, these cases are the result of altered distribution of the blood incident to vascular changes, these are the cases in which there is a slowing of the whole heart accompanied by lowered blood pressure, in so far as these common fainting attacks which are provoked by emotion or by long standing or in over heated or over crowded rooms has been investigated it has been shown that they are vagal in part reflexly so, primarily it is not a cardiac malady but is brought about reflexly, the vagus undoubtedly being involved as an efferent channel, a common exciting cause is the sight of blood the attacks are most frequently confined to the erect posture, these attacks are frequent in patients recovering from an acute illness or suffering from some chronic wasting diseases, the attacks are ushered in by a feeling of unsteadiness, giddiness, dimness of vision, during this period the heart action is becoming gradually slower, at the height of the attack, pallor sweating slow pulse, reduced blood pressure, the slowing of the pulse rate may be very profound even to 20 or 30 beats per minute which accounts for the unconsciousness, twitching of the muscles may be seen, the systolic pressure falls to 50 or 60 and the diastolic to 10 or 15 which also accounts for the syncopal and unconsciousness symptoms, at this point often the pulse is imperceptible,

HARVEY F. GARRISON

HARVEY F. GARRISON, JR.

Pediatric Diagnosis,
Diseases of Infants and Children
Lamar Life Building
Jackson, Miss.

nausea or vomiting may precede the loss of consciousness, the fact that an intra-venous injection of atropine will always immediately cause a recovery of the symptoms stamp the condition as reflexly vagal causing a vaso dilatation of the splanchnic vessels and a decreased inflow of blood to the heart.

In the Second group, that is those due to defective or disordered action of the Heart itself.

1st. In which the entire heart is involved.

- (a) Standstill of the entire heart (A-Systole)
- (b) Very rapid heart action coming on suddenly as in the Paroxysmal tachycardiaes and Auricular Flutter.

2nd. In which the ventricles alone are involved.

- (a) Standstill of the ventricles only, the auricles beating at the previous rate or greatly accelerated, e.g. Heart Block.
- (b) Suddenly developed heart block.
- (c) Ventricular standstill in previous existing heart block.
- (d) Fibrillation of the ventricles.

Standstill (13) of the entire heart, some years ago a curious case was reported by Neuberger and Eddinger (1898) in which standstill of the Heart accompanied by syncope repeatedly occurred during the act of defecation, at autopsy an aneurysm was found upon the basilar artery, so situated as to produce pressure upon the medullary centers during sudden rises of blood pressure, modern methods of recording the heart beat were not then available and there is no certain evidence tho there is strong presumptive evidence of a complete standstill of the entire heart. Gerhardt (14) reported a case from pressure upon

the left vagus from a tumor. MacKenzie (15), Wenckebach (16), Laslett (17) and others have reported numerous cases of a complete standstill of the entire Heart.

Very (18) rapid Heart action, of the entire Heart coming on suddenly as in the paroxysmal tachycardiaes, the reserve power of the normal Heart is great, the organ seems to be able to accomodate itself to most any change that it may be called upon to withstand, but if the muscles of the ventricles are damaged or the rate is too greatly exaggerated for some hearts without a known cause the Heart does not seem to accomodate itself quickly and at once as it necessary in these types of conditions, the blood pressure falls rapidly and far because the muscles cannot maintain the pressure head necessary at that new rate and syncope occurs, the most notable form of this type of cardiac syncope is auricular flutter, the accompanying symptoms suggest an abrupt rise of ventricular rate, usually there is a 2 to 1 block in these patients that is the ventricular rate is one half of that of the auricles, auricular rate 300 ventricular rate 150, the block disappears and the ventricles assume the rate of the auricles or the full rate of 300 per minute, such a rate often is not well tolerated by an adult Human Heart, the arterial blood pressure quickly falls and profound syncopal symptoms manifest themselves, several cases of death have been reported in patients of this type possibly due to high ventricular rate or more probably to ventricular fibrillation.

Standstill (19) of the ventricles only, cardiac syncope occurs frequently in patients who exhibit auricular-ventricular block, the ventricles alone ceas-

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ing to beat. Sir Thomas Lewis (20) states that there is yet no agreed definition of the term "Adams-Stokes Syndrome." The precise nature of the fits described by Adams and Stokes is unknown however probable it may be that their patients suffered from A-V-Block, very slow action of the ventricles is not always due to A-V-Block but whatever its cause, it leads to faintness or actual loss of consciousness further the pulse rate may be lowered to one half its normal rate by extra-systoles, also it is necessary to remember that cardio-vascular defects may actually be associated with Epilepsy and the seizures be the result of the Epilepsy rather than of the cardio-vascular condition.

Suddenly (21) developed Heart Block, Sir Thomas Lewis reported several cases of this kind in whom repeated attacks of cardiac syncope occurred but in whom at other times the normal Auricular-Ventricular conduction was perfect, without warning the ventricular beat would stop while the auricular contraction continued as normal after a few seconds the patient would lose consciousness, atropine failed to afford relief.

Increase (22) of a pre-existing Heart Block, in those who show high grades of partial block, cardiac syncope is frequent, the ventricular rate decreases while the auricular rate is maintained or accelerated this acceleration causing a more marked slowing of the ventricles thru a change in the refractory period of the A-V node or the ventricular muscles, or there may be a sudden increase in the grade of block say at 3 to 1 or 4 to 1 and suddenly there develops a 10 to 1 or a 20 to 1 block, thus markedly slowing the ventricles thru the lack of conduction thru the A-V node, this increase of block has been explained in numerous ways the more recent explanation is that there occurs a sudden increase of auricular rate and the refractory period of the A-V node is not sufficient to pick up this increase and there develops a more marked block at the A-V node.

Ventricular (23) standstill where complete Heart Block already exists, this is less frequent than an increase of preexisting block, however cases of complete block seem more prone to enter a state of "Status-Epilepticus" atropine has little or no effect upon the fits of complete block, thus showing that the vagus is not at fault, it seems from experiments that the Idio-ventricular rhythm of complete block is free from any control of the vagus, and the standstill is due to some unknown cause which effects the idio-ventricular rhythm. It has been shown that a simple lesion of the bundle of His not only suffices to disassociate the chambers, but also to cause a profound standstill of the ventricles, the Idio-ventricular rhythm has been shown by many investigators to originate in the junctional tissues and with this change the ventricles alter not only their sequence but also profoundly the rate.

FIBRILLATION OF THE VENTRICLES

If the fibrillation of the auricles is so frequent in the human subject why then is fibrillation of the ventricles not more often noted, the answer is that the fibrillation of the ventricles spells death. Unless early recognized and correctly treated, which can only be done by the use of the Electrocardiogram. In ventricular fibrillation the ventricles so assaulted exhibit very rapid movements of small amplitude the

chambers at first shrink but soon enlarge and no longer expel their contents, the entire wall of the whole chamber is convulsed by minute quiverings. It has been shown by many investigators that the immediate cause of death in coronary thrombosis in ventricular fibrillation and especially does this occur often immediately after the thrombosis of a large or anterior vessel the condition often occurs where digitalis is introduced directly into the circulation in fair or large doses, in chloroform anesthesia especially light anesthesia fibrillation of the ventricles is the cause of death. Injections of adrenalin especially when often repeated and given over a long length of time has been shown to be the cause of death in so called asthmatic death.

Sir Thomas Lewis (24) writing of ventricular fibrillation states that it is difficult or impossible to sum up all the facts about ventricular fibrillation while it is undoubtedly a circus movement as in auricular fibrillation yet the facts seem to show that ventricular fibrillation comprises many different mechanisms and grades of disturbances. Several recent articles have emphasized the danger of too frequent and too large doses of adrenalin in asthmatic cases. Thus cardiac syncope may occur when the heart action is extremely fast, each disorder compromises the blood supply to the brain. The entire heart or only the ventricles may be involved and in the different forms as outlined, cerebral anemias is the essential cause of the symptoms.

Case 1. Miss E. T., white female. age 22, nurse. First seen March 25, 1933. Awakened about 1:30 a. m. March 24th with very rapid heart action, with choking sensation in the throat, precordial pain all over the heart area, that morning when patient attempted to go to work as a nurse, the patient became very dyspnoeic and fainted. When seen by me at 4 p. m. the patient was moderately cyanotic, especially the fingers, moderately dyspnoeic, pulse rate 140, BP 90/60. The tracing as you will see is a case of Paroxysmal Tachycardia. Past history: has had several attacks of rapid heart action with dyspnoea and syncope since about the age of 15, the first attack came on about the age of 15 or 16, had been playing a rather strenuous game of basket ball for 15 minutes, and then ran about one-half block to high school, when she arrived at the high school the heart action was very rapid, the patient was markedly cyanotic and dyspnoeic with moderate pain over the heart area. The patient had never had rheumatic fever, tonsillitis,

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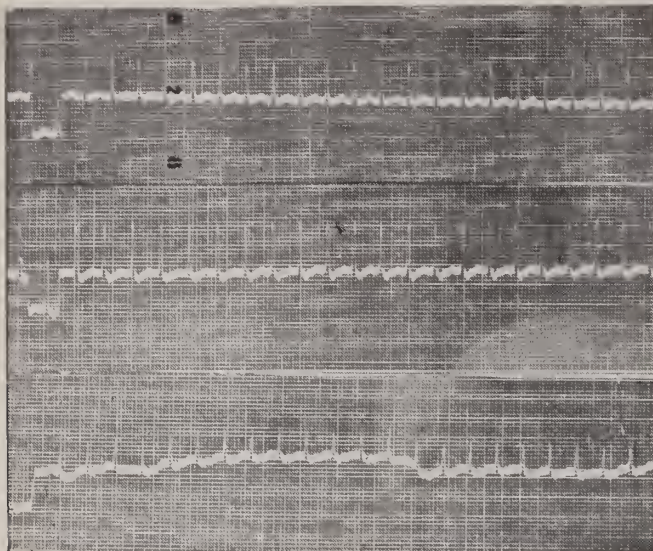
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chorea, scarlet fever, diphtheriae, pneumonia or



Miss E. A. T., W. F., age 22, nurse, 3-25-33.

CD: Acute heart failure with attacks of syncope;
Paroxysmal Auricular Tachycardia.

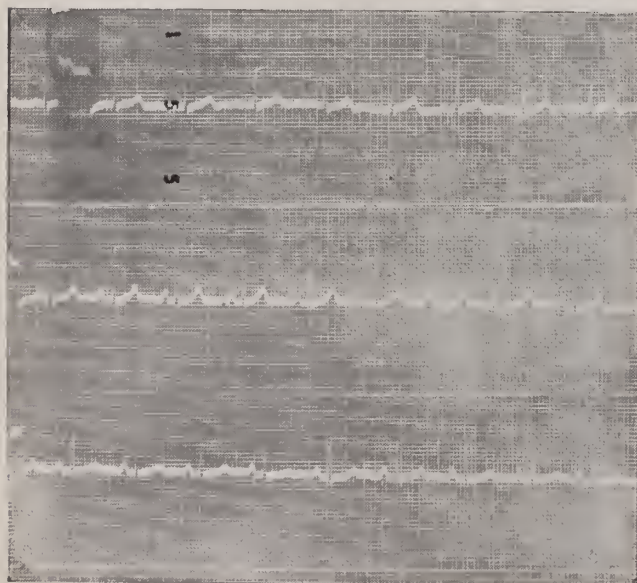
EKG: Paroxysmal Auricular Tachycardia.
Rate: 220.

Miss Erie Thomas, 828, 3-27-33; Lead 1, Rate 224; P very low ampt tube pr .04 sec.; R 9 mm high slurred on up stroke and down st.; R T .06 sec.; T is upright rounded 1 mm high .16 sec.

Lead 2, Rate 224. P definitely placed after the R.

Lead 3, Rate 224. The R is slurred on up stroke and down stroke and the P is placed after the R.

typhoid. The family history is negative. The 2nd tracing was taken next day when the heart was perfectly normal.



155—Miss Era Thomas—4-25-33.

Lead 1, Rate 80.

P upright .5 mm high .04 sec. to .08 sec.

P R .12-.16 sec.

R 8 mm high and is slightly slurred on up and down stroke.

R T .04 sec. T comes off down stroke of R slightly

low on Iso-electric line slightly curved with convexity upward upright rounded 2 mm high .28 sec.

Lead 2, Rate 80.

P upright rounded 1.5 mm high .08 sec.

P R .16 sec.

R 12 mm high.

S 2 mm deep.

R S T .04 sec. T comes off up stroke of S is curved slightly with convexity downward upright rounded 3 mm high .28 sec.

Lead 3, Rt. 80.

P up right sharp slurred 2 mm high .08 sec.

P R .16 sec.

R 8-9 mm high.

S 1 mm deep.

R S T .08 sec. T comes off up stroke of S slightly curved with convexity downward 1.5 mm 1.5 to 2 mm high .28 sec.

Case 2. Mrs. F. L. W., white female, age 23, referred by Dr. J. M. C. June 8, 1933. Symptoms marked irregularity of heart, slight cough, marked edema, slight dyspnoea, first noticed 18 months ago when giving blood for a transfusion to her sister who had been in an automobile accident, the doctors at one of the Birmingham hospitals refused to use the patient as a donor because of the irregularity. Past history: negative except for a suggestive history of rheumatism some 12 years ago. The patient at the time of taking the tracing was 7 months pregnant (Primipara) the history included several attacks of giddiness but no syncope, one tracing was taken and just as the instrument was switched off, the patient complained of marked giddiness. dimness of vision, I switched the instrument back to Lead 1 and in just a short while the patient while not entirely unconscious was nearly so, however during the second standstill there was marked convulsive movements and unconsciousness, marked cyanosis, pupils dilated with peculiar pallor, I believe the peculiar complexes are somewhat the result of the convulsive movements, in as much as the complexes seem rather to be held in systole rather than in diastole later probably because the patient had for several months been taking Digitalis, rest and sedatives the irregularity was Paroxysmal Auricular Fibrillation seemed somewhat improved tho occasionally occurred the edema dyspnoea and cough much improved, the patient was delivered by Drs. J. M. C. and G. by caesarian section and the rhythm remained somewhat normal, the Etiological condition was found to be Mitral Stenosis with regurgiation (Rheumatic Heart disease).

(See cut next page)

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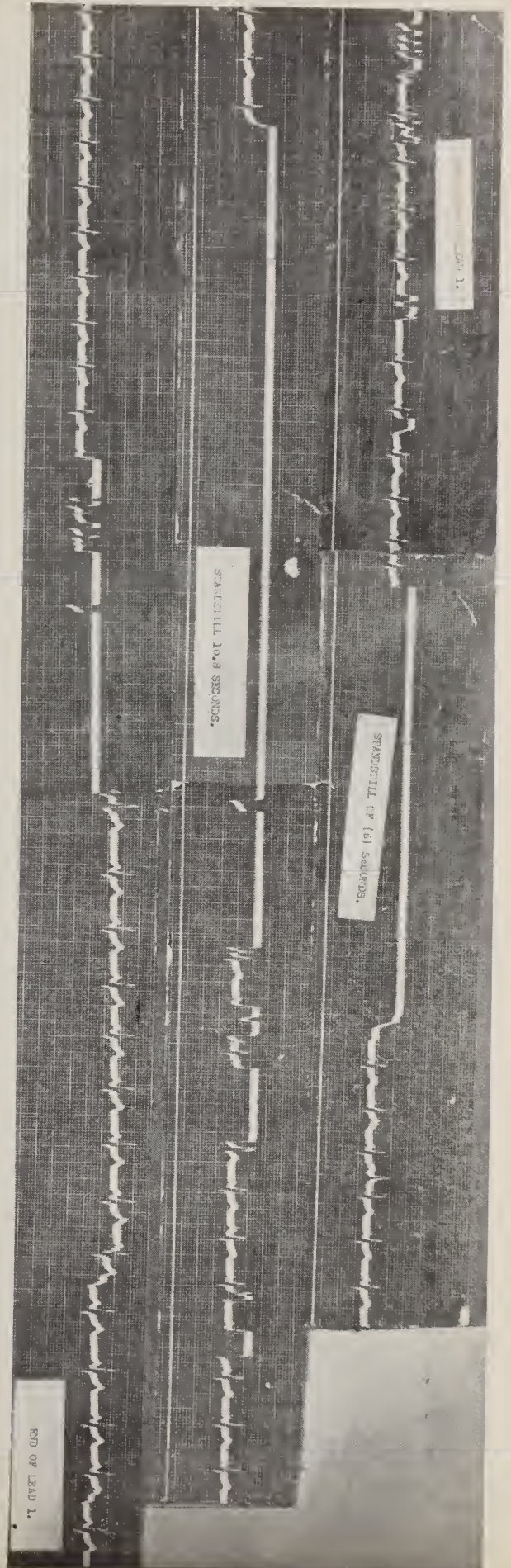
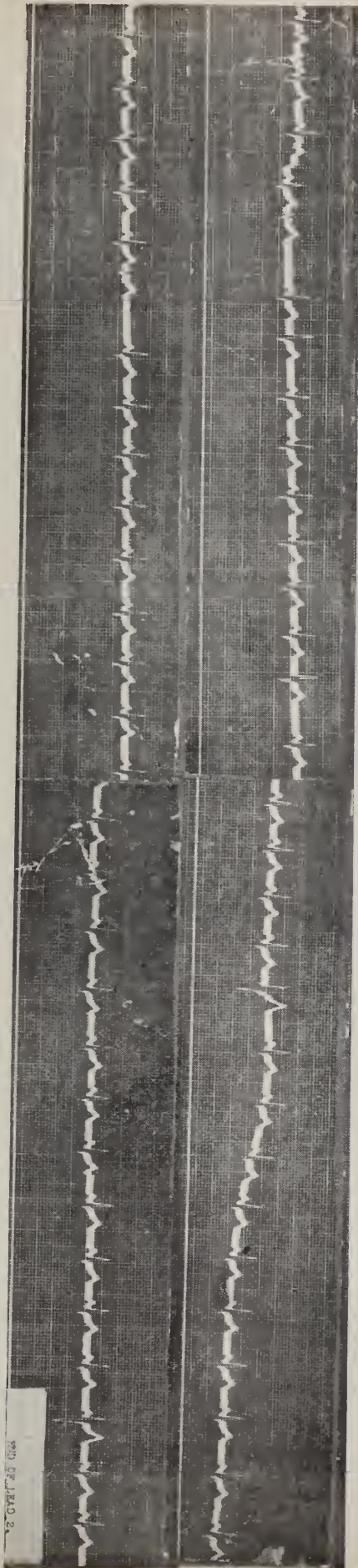
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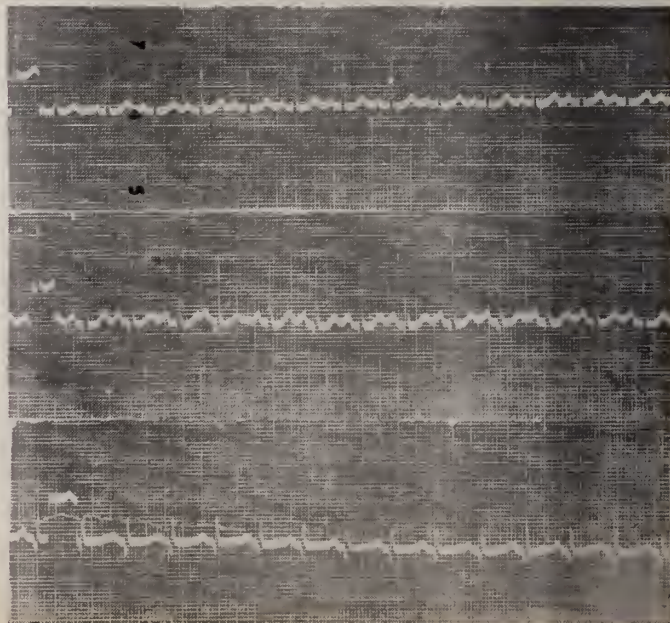
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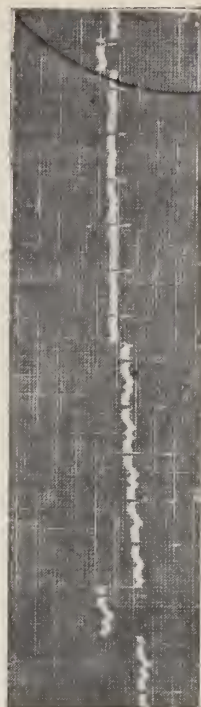
ROY O. BAKER, Mgr.

Case 3. Mrs. T. H. A., white female, age 49, first seen January 17, 1933. Her complaint was terribly weak spells, often upon slightest exertion faints, has even fainted upon rising up in bed, highly nervous, very quick in her movements, emotional, cries easily, despises summer, very fond of cold weather, has been treated for long years for a very nervous heart, says her heart actually stops when she faints, Doctors have laughed at her about this, but it's true, all the family have found it true. Examination showed a pulse rate 120, a small adenoma upon left lobe of thyroid, Basal Metabolism 54. There was also intra-pelvic pathology from an old and long standing chronic intra-pelvic inflammatory condition and a marked vaginal laceration, during the physical examination of this patient, the patient had an attack of syncope, the pulse rate became very weak and very slow 36 per minute (Adam-Stokes Syndrome) the tracing (1) was then taken all 3 leads completed and hoping we might be fortunate to record one of the attacks of syncope we left the instrument in lead 2 tho not recording, after a few minutes the patient began to complain of giddiness, dimness of vision and we immediately threw the recording camera into operation after attempting to standardize the string we took a few seconds of tracing, then re-standardizing to 10 MM note the first part of the standstill is a true A-Systole for 6 seconds then (P) or Auricular complexes came in, noting the slight movement of the string I then recorded the standardization knob 3 milli-volts which showed the string to be fairly well standardized, note that at the end of 14 seconds the ventricular beat began to be recorded (The tautness of the string was not changed in any way, all 5 of the strips are in lead 2). The large wavy up and down movement of the string is due to the movements of the patient while the nurse was trying to resuscitate her at the end of the strip 5 you will note that heart began to have the form of complexes it did in the first tracing.

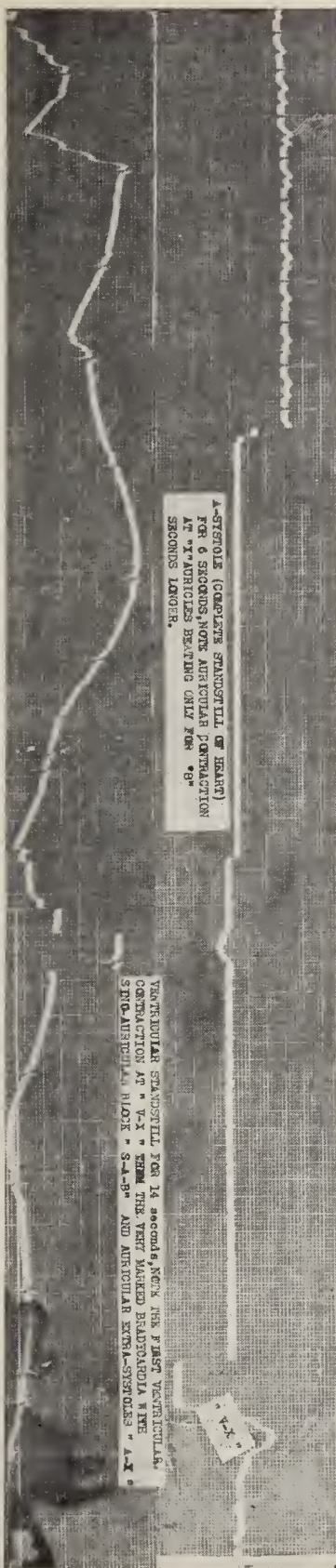


DESCRIPTION OF EVENTS OCCURRING DURING TAKING TRACING

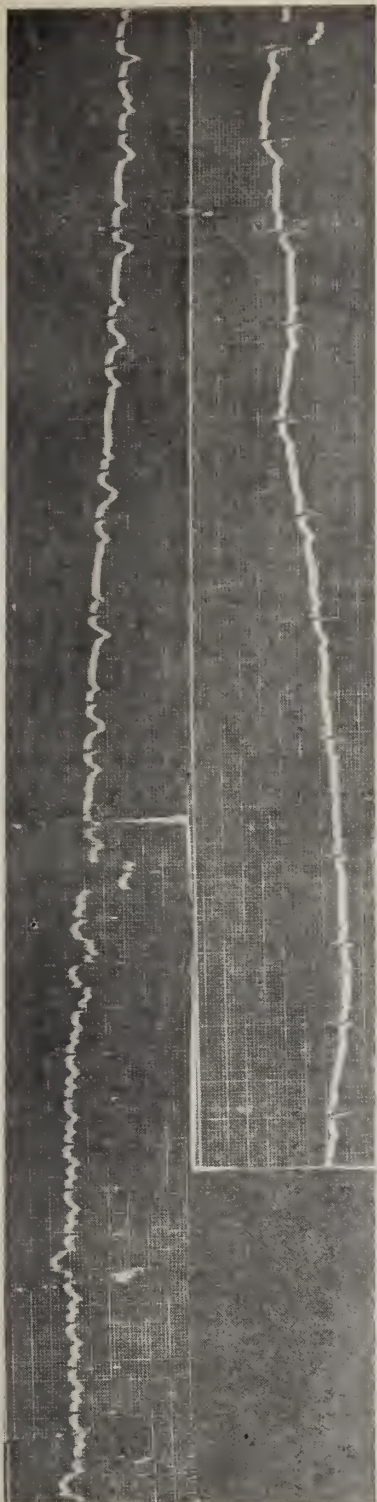
During physical examination about 30 minutes before taking the EKG the patient had had an attack of syncope during which attack the pulse rate became 1st imperceptible for a few seconds and later very slow (evident Adams-Stokes syndrome i.e. Heart Block) after taking the tracing upon the opposite side of this card noting the arrhythmia on the string I switched back to lead 2. This entire record is in lead 2. Strip 1. Note that the standardization was 5 mm to start with and later adjusting the string it was standardized to approximately 10 mm which is continued in strip 2. Note the cardiac standstill (a-systole) about 5 seconds which is followed by what is evidently the auricular complex "P" only or a continuation of the ventricular standstill for 6 seconds longer notice the slight waving of the string I then attempted to re-standardize the string which is noted as being about 14 mm



A-SYSTOLE (COMPLETE STANDSTILL OF HEART)
FOR 6 SECONDS, NOTE AURICULAR COMPLEXES
AT "Y" AURICLES BEATING ONLY FOR "S"
SECONDS LONGER.



VENTRICULAR STANDSTILL FOR 14 SECONDS, NOTE THE FIRST VENTRICULAR
CONTRACTION AT "Y-1" FROM THE VERY MARKED BRADYCARDIA NOTE
SINO-AURICULAR BLOCK "S-A-B" AND AURICULAR EXTRA-SYSTOLES "A-X"



though the standardizing knob, or knob to change tautness of string had not been touched noting an evident ventricular complex on the string I made no attempt to change it in any way, that is, nearly one second, before the that there was a delay of next Auricular complex which is followed by a ventricular complex in 1 second, the rhythm for two beats is .44 sec. STRIP 3. The beats are about 24 to 30 seconds a part note the change of direction in the later part of strip 3 "R" is upwards in 1 complex, while in the next 3 "S" is predominant complex in all complexes "R" predominates again. STRIP 5. Note the first part of the strip, complete "A-V" Block "Idio-Ventricular Rhythm" second part of this strip, there are a few complexes, that have been cut away, the string re-standardized, still in lead "2," the heart again resumed the type rhythm seen in lead "2," before the "A-systole" somatic tremor very marked in this part of the strip, the complete standstill Heart, both Auricles and Ventricles 5.4 seconds, auricles then resumed beating, complete ventricular standstill lasted for approximately 10 seconds, in Strip 3 there is Sino-Auricular block or Sinus Bradycardia, this is also present in strip 4 while strip 5 "A-V Block Idio-Ventricular rhythm." at the end of strip 3 is noted what looks like a ventricular extra-systole. STRIP 4. Note that the first 8 complexes "R" is the predominant complex, while in the next 3 "S" is predominant complex in all complexes "R" predominates again. STRIP 5. Note the first part of the strip, complete "A-V" Block "Idio-Ventricular Rhythm" second part of this strip, there are a few complexes, that have been cut away, the string re-standardized, still in lead "2," the heart again resumed the type rhythm seen in lead "2," before the "A-systole" somatic tremor very marked in this part of the strip, the complete standstill Heart, both Auricles and Ventricles 5.4 seconds, auricles then resumed beating, complete ventricular standstill lasted for approximately 10 seconds, in Strip 3 there is Sino-Auricular block or Sinus Bradycardia, this is also present in strip 4 while strip 5 "A-V Block Idio-Ventricular rhythm."

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FIRST INSTALLMENT

Dr. Rudolph Matas, of New Orleans, a citizen of the world. Born in Louisiana Sept. 12, 1860, the only son of Dr. Hereu Matas, a native of Gerona, Spain. At two years of age he was carried to Spain. He was educated at the Ecoles Infantiles of Paris, primary schools in Barcelona, Spain, and Brownsville, Tex. Soule's College, New Orleans, and the Literary Institute of St. John, Matamoros, Mexico where he was graduated in 1876. He entered Tulane in 1877, graduated at the Charity Hospital in 1880. He was medical clerk to the yellow fever commission in Havana, medical inspector on national board of health at Vicksburg for some time; editor of New Orleans Medical and Surgical Journal from 1883-85. Held the chair of Surgery in Tulane from 1894 to 1927. President of the Louisiana State Medical Association in 1894-95; American Medical Association 1920; American College of Surgeons 1924-25. He is distinguished for his work on vascular surgery, aneurysm in particular; spinal and regional anesthesia; anatomic dissections in surgery; and application of hypodermoclysis and venoclysis. These are a few of the peaks, the high points in the life and the work of Dr. Matas.

These are only a grain of sand in his total assets. His store-house of accurate information on multiplied subjects set him apart as one person. In the art of living, his volume of life, his ability in sustained effort, his good health and mental vigor as he stands upon seventy-five years of such ponderous activity warrant him the Nobel prize over his world contemporaries in this the greatest of all human accomplishments. His radio-active personality emanating devotion to and dignity in professional duty, human love, sincere friendship, courtly consideration for others, inspire any who come in contact with him to greater and more noble efforts, and even charge the atmosphere around the earth for any who are attuned to receive such inspiration.

We would not discount the glory and honor merited by Osler, Keen, Deaver, Murphy, Oschner, Gorgas, and Franklin Martin; we would not underestimate the just distinction that is and is to be the Mayos, Erdman, Kelley, Evans et al. But when all the assets are added that fashion a man after the Master of Men we believe that Dr. Rudolph Matas must be accorded the deanship of American medicine. He is really at this time Dean of the Medical world.

In 1915 he delivered an address before the Mississippi State Medical Association. His subject was the "Soul of the Surgeon." Chairman J. W. Lipscomb of Columbus has the following to say of him at this time.

Chairman Lipscomb, before the Mississippi State Medical Association, in May, 1915, in introducing the orator of that occasion, said feelingly: "The foremost

man in the foremost college in this great Southland of ours, the Nestor of our brilliant and gifted profession, he needs no introduction. We have but to mention his name and his contemporaries throughout the United States stand at attention. Someone has said that, to be an ideal doctor, we must possess the wisdom of Solomon, the faith of Abraham, the meekness of Moses, the patience of Job, the charity of Dorcas, the eloquence of St. Paul, the bravery of Joshua, the strength of Samson, the executive ability of a Jezebel, must be a hunter like Nimrod, a fisher like Peter, a climber like Zaccheus, a driver like Jehu. He should be free of Asa's gout, the melancholy of Saul, the gastric infelicity of Timothy; have all the virtues of the most virtuous and the religion of all saints. All of these are his. And now, Ladies and Gentlemen, I have the distinguished honor, the esteemed privilege and the great personal pleasure of introducing to you Dr. Rudolph Matas, of New Orleans, who will deliver the oration."

Mr. President, Members of the Mississippi State Medical Association, Ladies and Gentlemen:

It is my first and most agreeable duty to express my profound appreciation of the honor conferred upon me by the invitation to address the Association on this notable occasion; also my gratification at the opportunity and the privilege of addressing an audience in a city in which I have the good fortune to count so many personal friends, some of whom I have the joy of recognizing as my contemporaries, many more as my students and fellow-alumni, who have been cradled in the same beloved alma mater; and still others, in the membership of the Association,

who in the course of a long professional life, have honored me with their confidence and good will.

To all these worthy friends and colleagues I am still indebted for the privilege of a large acquaintance with the people of Mississippi—an acquaintance which in the course of many years has been the prolific source of many professional relations, which have ripened into lasting and loyal friendships—friendships that have proven one of the greatest rewards and blessings of an arduous professional life. I avail myself, therefore, of the opportunity offered me by your friendship and your goodness, to thank you, and again, through you, to express my admiration, my devotion and my love for the splendid people—the generous, the brave and the chivalrous people—of this great commonwealth, with whom my life has been so closely and delightfully interwoven, from the earliest dawn of my professional life to the present time.

It would have been my greatest ambition to have come to you with some scientific offering worthy of the splendid occasion; to have brought some message that would have fitly memorialized the day, and that would have adequately conveyed to you the sentiment of grateful recognition that so many years of close professional intercommunication has fostered and nourished in my heart; but it is not easy for the busy worker in our profession, the man who is eternally at the forge, hammering away at the physical imperfections of his fellows, shaping, in a manner, their physical destinies, and sweltering over the melting pot of human injury and disease—to suddenly exchange the modest apparel and the grim activities of the operating room for the toga of the orator and the

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Fortunately, even though I possessed a single claim to the many virtues that my brilliant friend, your gifted, but too partial chairman, has showered upon me,—the impossible is not expected of me. Even were I capable of oratorical display, any attempt at such an exhibition,—in the land of a Prentiss, a Davis, a Lamar, a Williams, or, in our profession, of a Chaille,—and a host of others, living and dead, who have shed lustre upon the glorious traditions of your State—a State where, seemingly, wit and eloquence spring from the soil as plentifully and spontaneously as the cypress and the pine,—any attempt, I repeat, to contribute to the amenities of this occasion by a display of oratorical power, would not only be “bringing coals to Newcastle,” but, in comparison to what you have to offer your guests, would prove an utter failure.

The chief advantage of occasions of this character is that they offer most favorable opportunity for the mutual interchange of thought, opinion, and experience, and, of these, none can be more pertinent or profitable than those which relate to our individual experience in the special fields of labor in which we are engaged.

I will, therefore, permit myself to indulge in some rambling thoughts on a subject with which, from the very nature of my life-work, I am most familiar, if not best qualified to speak—I mean the Surgeon, or, rather, the Soul of the Surgeon himself.

* * * *

It is now a trite observation, which has become threadbare by continued repetition, that since the advent of the doctrines of Pasteur and Lister, surgery has made more progress in the last half century, and especially the last quarter, than had been made in all the past centuries put together. So true is this that there is no longer a horizon to its limitless ambitions, or a check to its inquisitive enterprises. Modern surgery has knocked down the barriers which, scarcely half a century ago, were deemed insurmountable. Achievements that would have been regarded as the ravings of a disordered imagination, have become stern realities. However we may at times question the audacity of its leaders, no one can fail to admire its indomitable spirit and bow down before its acknowledged triumphs. But if there are, at the present time, a few skeptics who question the power and the possibilities of surgery, there are, on the other hand, a host of others, and perhaps the majority of mankind in general, who have no conception of the workings of the surgeon's mind, of his internal consciousness, or, what might be called, the psychic experience which is peculiar to those who exercise surgery as a science and an art. And none but he can appreciate the enthusiasm, the passion which it inspires and instills, in the one who, wholeheartedly, disinterestedly, unselfishly, and honestly, consecrates his life to its ministry.

The surgeon, as a mere practitioner of his art, is known to the masses in his multitudinous and exteriorized types; but the Soul of the Surgeon—if we may define the soul as “the ethical and emotional part of man's nature, the seat of the sentiments and feelings, as distinguished from pure intellect”—is a part of his makeup that is unknown to the masses; and the profound emotions which agitate him and

with which he is rarely credited, can never be appreciated or analyzed save by one of the Guild who has lived them.

It is an easy matter for the critic, the dramatist, the novelist, the cynic and the cartoonist, to exercise their talents at the expense of the surgeon. Surgery has furnished, and continues to furnish themes inexhaustible for humorous dissertations in the comic papers, and cheap diatribes in the yellow journals. This has been so from the days of Aristophanes to Bernard Shaw. Nothing easier than to sneer or rail at surgery by those who are not in need of its good offices. But, in the presence of the cynical and grossly material concept of the surgeon's role in the social fabric, it is only fair that something should be said to prove the baselessness of the charge that he is mercenary, soulless, indifferent to the fate of his fellows, greedy of gold, and thirsting for publicity and notoriety.

For the persistence of this opinion in certain quarters, the quack, the impostor, and the knave, who thrive in our ranks, are largely responsible. In justice to our calling, however, we must recognize the fact that we are not alone in being cursed with quacks, for they are found in all occupations. “The quack is a loud-mouthed pretender, a person who seeks to gain confidence by unworthy methods or an individual who claims to have a specific for various disorders of manners, morals, finance and politics. There is a quack in statesmanship who would reform every abuse by the iron application of a favorite formula; the quack in law, who stimulates litigation and conducts legal procedures with no regard whatever for the interest of the community; and the quack in religion, who claims to have personal influence with the Creator, invariably speaks as a self-constituted oracle of the Almighty and, to quote a picturesque phrase of Dr. Chalmers Da Costa, ‘would take us to heaven in the private parlor car of a lightning express.’”

* * * *

But much of the disrepute, which has come to surgery at the present time, has not come through the ordinary coarse, vulgar, ignorant and shameless quack, who advertises undisguisedly in the newspapers, but from those who are regarded as regular practitioners, wolves in sheep's clothes; these, at bottom, are the most dangerous sort of imposters. There are men who, having been trained in the safe methods of modern surgery, who having learned enough of the rudiments of surgical technic to steer clear from the perils of infection and thereby avoid an immediate mortality, and others who have acquired considerable skill from association and training with competent surgeons—sometimes, and I am pained to say it, too often, and with growing frequency—are willing to desecrate their ministry and their art for purely sordid, sinister motives. These are the men who, knowing better, see an operation in any and every complaint made by the

ROSS E. ANDERSON, A.B., M.D.

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unfortunate victims of their cupidity and soullessness. They are the men who resort to all sorts of subterfuge to coax their patients to the operating table. They are the men who see in every cramp, an appendix; in every belch, a gallstone; in every heartburn, gastric or duodenal ulcer; in every uterus, a cancer or a fibroid; in the abdomen of every neurasthenic young woman, a diseased ovary, an infected tube, an extra-uterine pregnancy; in every neurotic woman's abdomen, a floating kidney or a prolapsed or displaced organ, that nothing short of an operation, a laparotomy, can cure or relieve,—provided the patient can pay the necessary fee. It is wonderful how sometimes the urgency and perils of a patient's pathology shrivel into a negligible quantity when it is discovered that the pocket-book is empty and that there are no stakes to rake off from the game.

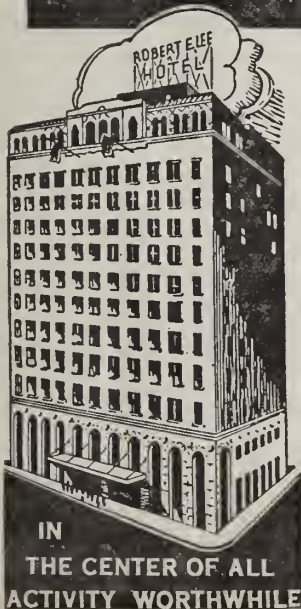
But while tainted money is the most frequent motive for the prostitution of surgery, there are other considerations which often lead a man of the art to sell his birthright and his decency for a mess of pottage. There are others, less base, who are insanely ambitious for reputation and prestige as marvelous operators; who, possessed of the furor operatorius, allow this vanity to eclipse their reason and their morals. These men will not hesitate to remove normal and inoffensive organs and endanger the lives of their fellows, solely to be quoted as wonderfully successful operators. How easy for a man armed with a diploma, with some appearance, suavity and plausibility, to insinuate himself into the graces of a gulli-

ble and impressionable public, if he is the least bit intelligent but unscrupulous. How easy to multiply one's successes, with even a modest surgical training, by removing healthy organs, or operating upon them in normal individuals when the danger of complications and disastrous consequences are reduced to a minimum by the perfect conditions of resistance that obtain in healthy patients! How easy to swell one's statistics as a wonderfully successful operator, by shearing the wool of a lot of unsuspecting lambs, while they sleep. How well Zola depicted this conscienceless type of surgical wolf in his wonderful search into the cause of race suicide, which is summed up in his novel *Fecondite*.

In this, he introduces us to Gaude, a young handsome, aggressive, skillful, but unscrupulous gynecologic surgeon, the idol of the smart set and of all the women of the quartier, where he holds his clinics in his private hospital and performs his jugglery before enthusiastic and admiring audiences. He is the Napoleon of the Pelvis. Every day adds new victories and a new record to his already vast crop of amputated ovaries and hysterectomized women, and his wards are full of sterile and unsexed females. Whether diseased or not, it matters not; his clinics must be provided with material. His appetite is insatiable. It is not so much for his fees and the filthy lucre—to which he is not altogether indifferent—but it is to swell his statistics, and to be reputed as the premier laparotomist of France. And there are many other Gaudes outside of France who hold their sway in

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realms which are not included within the frontiers of the Faculty.

Then there are not only solitary knaves, who hide their nefarious practices in the secrecy of their private sanitariums, but there are combinations, private partnerships, among equally rapacious and unscrupulous crooks who working in collusion, are ever ready to exploit the unsuspecting, who have been skillfully steered to their operating rooms. In these combinations, the internist, disguised as the family physician, as the general practitioner, plays the role of the confidence man, who makes the diagnosis, creates the alarm, which leads to an operation, and, then extols and lifts to the skies his secret partner—the surgeon—usually an unknown and obscure recruit from the surgical ranks.

And this traffic goes on, so that the two may divide the spoils of the foul partnership in fictitious diagnoses and in unnecessary, and often criminal, operations.

(To be continued next month)

Mississippi Valley Medical Society

The first annual meeting of the newly formed Mississippi Valley Medical Society will be held at the Lincoln-Douglas Hotel, Quincy, Illinois, on October 2, 3, 4, 1935. A most practical program of intensive post-graduate instruction by eminent clinicians has been arranged. A preliminary program may be obtained from the Secretary, Harold Swanberg, M.D., 211-224 W. C. U. Building, Quincy, Illinois.

Book Review

The time has come when we must think in terms of medical problems. How to get medical service over to the people at a cost at which they can utilize it is the challenge. The decentralization of the medical profession, the proper distribution of both doctor and nurse must be considered. The relation of the doctors one to the other, their income, the number of doctors being graduated, and their education are up for consideration. How have we traveled this far and where do we go from here all must be considered. The Doctor's Bill by Hugh Cabot is, we are sure, one of the most instructive and one of the most interesting books that has been written along this line. There is much work to be done in solving our medical problems. This book will give you a working basis to think for yourself. Every doctor should have a copy and should study it closely. You need to know how many doctors we have in this country, how many nurses, their incomes, the number of medical schools, the number of nursing schools, the incomes of doctors and nurses; the ability of people to pay their doctor's bill, how the bill is to be paid in the future. Dr. Hugh Cabot of Rochester gives you facts and at the same time stimulates thought on your part. This wonderful book, this timely book, is published by the Columbia University Press 2960 Broadway, New York and the price is only three dollars.

Be sure to get the book on doctor's bill by Dr. Cabot and read it. It is timely. You will enjoy it and you will profit by it.

Acute Craniocerebral Injuries*

ALTON OCHSNER, M.D. and KIYOSHI HOSOI, M.D.
New Orleans, Louisiana

With the introduction of rapid transportation and modern industrialization, injuries of the cranium and its contained cerebrum have become more numerous and are of a severer type. Whereas automobile accidents are responsible for a very large proportion of head injuries, blows and falls on the head are the most frequent causes. In the authors' (1) series of 1,099 cases from the Charity Hospital in New Orleans there were 997 in which the type of injury was stated. The most frequent injury was a fall, it being the etiologic factor in 37.9 per cent of all cases. In adults blows on the head were the most frequent causes of cerebral damage (37.2 per cent) and were followed in frequency by falls (27.9 per cent). In children, as might be expected, the most frequent injury was a fall (60.2 per cent), which was followed in frequency by automobile injuries (23.3 per cent). These figures correspond closely with those of Ireland (2), in which in children falls and automobile injuries were exciting factors in 62.5 per cent and 25 per cent, respectively. The increasing relative importance of the automobile accidents as causes of head injuries is illustrated in our cases. In the decade 1910 to 1920 automobile accidents were responsible for 15 per cent of the injuries, whereas in the periods 1920 to 1930 and 1930 to 1931 the percentages were 30.7 and 38, respectively. It is of interest that 4.9 per cent of the injuries in our series of children were birth injuries.

Too frequently physicians consider craniocerebral injuries in the term of fracture of the cranium, whereas in reality injury to the brain substance is of much more importance rather than that of the cranium. In spite of the importance of cerebral damage it is surprising how frequently in acute head injuries only fractures of the skull are considered. Although it is unquestionably true that an injury severe enough to produce a disruption of the cranial vault or base usually produces cerebral damage, such is not always the case and certainly the converse is not necessarily true; viz., that in the absence of a cranial fracture, injury to the cerebrum can be disregarded. In 1,000 cases of head injury reported by Wortis and Kennedy (3), x-rays were made in 439 cases, of which 230 were

*Read before the Mid-South Post Graduate Medical Assembly, Memphis, Tenn.

CHARLES D. BLASSINGAME, M.D.

414 Physicians and Surgeons Bldg.

Memphis, Tennessee

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Memphis, Tenn.

negative for fracture, 186 showed fracture of the vault, 63 fracture of the base, and 20 evidence of depressed fracture. Of 441 cases reported by McClure and Crawford (4), 39 per cent were unassociated with skull fracture. Laborers are more frequently subjected to head injuries than those in other occupations. In our own series (1), in 43 per cent of the cases in which the occupation was stated the patients were laborers, 13.3 per cent did house work, 10.3 per cent were school children, 2.3 per cent were clerks, and 2 per cent were carpenters.

The greatest age incidence of craniocerebral injuries varies considerably in the reported cases. This is probably due to the fact that in some series the cases are limited to adults, whereas in others it includes both adults and children. McClure and Crawford (4) found the average age in their series to be thirty years. In Connors' (5), Stewart's (6), and Vance's (7) series with cranial fractures the age varied considerably. In Vance's (7) series of 507 cases, the greatest number (22+ per cent) was in the fifth decade. Stewart (6) found that the average age was thirty-six, whereas Connors (5) found that the greatest number (22+ per cent) occurred between one and ten years. In our own series (1) we found the greatest number (27.2 per cent) occurred in the first decade. The incidence of cerebral injuries became progressively less with advancing age in our series, decreasing from 27.2 per cent in the first decade to 1.5 per cent in patients above 70 years of age.

In the consideration of craniocerebral injuries it is desirable to determine the type and extent of injury to the cerebrum and only exceptionally is dam-

age to the cranium of any importance. Following trauma to the head the degree of cerebral damage varies considerably from simple concussion to extensive laceration and hemorrhage.

Concussion. Many pathologists and clinicians deny the possibility of the occurrence of concussion because in the few fatal cases with concussion, no pathologic change in the cerebrum could be demonstrated. Concussion represents a clinical syndrome which is a physiologic disturbance without anatomic change and in which no pathologic findings can be demonstrated. A number of theories have been advanced to account for the condition. Generalized cerebral edema has been considered to be the cause of the clinical manifestations by Duret (8), Heise (9), and Symonds (10). Separation of the gray and white matter with a difference in their specific gravities has been considered by Tilman (11) to be the cause of concussion. Rahm (12) believes that there is a rearrangement of the lipoids, protein molecules, and electrolytes in the cerebral cells. Miller (13), based on his experimental observations, is also of the opinion that concussion is the result of molecular disturbance in the cell, whereas Henschen (14) believes that concussion is produced by interference with, or interruption at, the synaptic junctions of the subcortical centers within the midbrain. A change in the hydrogen ion concentration has been considered to be the cause of symptoms. Knauer and Enderlen (15) believe that a rapid acidification of the cerebral cortex occurs, and Vara-Lopez (16) has shown that in experimentally produced concussion there is a decrease in the hydrogen ion concentration of the cere-

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brospinal fluid occurring within two minutes after the trauma.

Clinically, concussion is characterized by immediate and temporary unconsciousness usually followed by headache, nausea, and occasionally vomiting. There is a rapid recovery from all symptoms in cases of uncomplicated concussion. Russell (17) is of the opinion that following a severe head injury the whole nervous system may be paralyzed and that respiratory and cardiac movements may cease but they recover quickly and following this, there is return in involuntary movements of the extremities and reflexes. The higher cerebral or mental functions are the last to recover. Ritter and Strebel (18) believe that concussion of the medulla oblongata occurs more frequently and is more important than that of the cerebrum. In a series of 349 cases, 95 (27.2 per cent of the entire group and 83.3 per cent of the true concussions) showed evidence of medullary involvement. They believe that concussion of the medulla results in respiratory and circulatory disturbances, vomiting, blood pressure changes, and unconsciousness. In all their cases there was immediate unconsciousness, which in the majority of cases lasted only a few minutes and never lasted more than five hours. Retrograde amnesia was present in 63.1 per cent of the cases and was associated with unconsciousness. There was an increase in pulse rate in 67.9 per cent. The clinical manifestations are more varied in concussions of the medulla oblongata than in that of the cerebrum. The symptoms appear more slowly, and the sequelae occur more frequently. Also, less severe trauma will produce a concussion of the medulla than a similar condition in the cerebrum. Concussion of the cerebrum occurred in only 4.29 per cent of Ritter and Strebel's (18) entire group of cases and 13.19 per cent of the cases of concussion. Unconsciousness occurred less frequently than in concussion of the medulla. It was absent in 20 per cent of the cases. In 80 per cent of the cases in which it was present it occurred immediately, was deeper, and lasted definitely longer than in concussion of the medulla. It lasted more than five hours in 60 per cent of the cases. In only 20 per cent of the cases had unconsciousness disappeared within three hours. Retrograde amnesia was present in 66 per cent. The temperature was always increased and vomiting occurred in 26 per cent of the cases.

Edema. Undoubtedly the most important of the anatomic lesions occurring in the brain following a head injury is an edema of the brain substance. LeCount and Apfelbach (19), in a study of 504 post-mortem examinations of patients with craniocerebral injuries, found that the most frequent lesion was traumatic edema. In these cases they found the cerebral convolutions were flat, the cerebral veins relatively empty and flat, and the fluid in the leptomeninges greatly diminished. Apfelbach (20) states that the edema following craniocerebral injuries is generalized and is not localized about the points of contusion. The dura is tense due to the edema and the brain is soft and easily loses its form when laid on a flat surface after removal from the cranium. If the brain is hardened for several days, the lateral ventricles are found to be closed, the brain substance is stippled by small intracerebral blood vessels, and microscopically the perivascular lymph sheaths are

distended with empty spaces between the fibers themselves, the latter being further apart than normal. Apfelbach (20) found that the water content of the brain was increased above normal from 3 to 45 grams, or as high as 3.7 per cent. That the edema may be due to the changes in the pH is suggested by Fischer's (21) work, in which it was shown that edema occurs when in the presence of water the tissue colloids are increased and that an increased acidity results in an accumulation of the colloids. Henschen (14) found that in patients recovering from concussion and contusion of the brain there was an increased secretion of lactic acid, acetic acid, and phosphoric acid in the urine. Vara-Lopez (16) showed that in concussion there is a decrease in hydrogen ion concentration of the cerebrospinal fluid. The edema by increasing the intracranial tension may cause obstruction in the venous return which in turn tends to aggravate the edema. Eventually as the condition becomes more progressive a cerebral anemia results.

Contusions and lacerations. Because contusions and lacerations occur concomitantly they should be considered together. The relative degrees of contusion and laceration depend upon the severity of the injury, laceration of the cerebrum being more prominent in the severer injuries. LeCount and Apfelbach (19), in postmortem studies, found that contusion when present was usually wedge-shaped and that the brain was infiltrated with blood for a depth of from 2 cm. to 4 cm. over an area with an outside diameter of from 4 cm. to 5 cm. They found this type of contusion in 49.2 per cent of their series, and in 73.3 per cent it was due to contrecoup injuries. Cerebral contusion was present in 7 per cent of McClure and Crawford's (4) clinical cases. Trotter ((22) is of the opinion that contusion is most frequently the cause of death in head injuries. Apfelbach (20) believes that the longer a patient lives after the trauma, everything else being equal, the more extensive is the contusion, this being due to continued bleeding during the life of the individual. Laceration, or tearing, of the cerebral cortex is usually associated with contusion and represents a more extensive lesion. According to Blahd (23), McClure and Crawford (4), laceration is usually associated with fracture of the skull. In 54 of the latter's cases with laceration of the cerebrum, 5 occurred without skull fracture and 49 were associated with fracture. Bagley (24) is of the opinion, however, that laceration of the brain may occur without cranial fracture and believes that the frontal lobes are the most frequent sites of lac-

R. L. SANDERS, M.D.
General Surgery

L. C. SANDERS, M.D.
Internal Medicine

M. P. KENDRICK, D.D.S.
Oral Surgery

J. CASH KING, M.D.
Consulting
Roentgenologist

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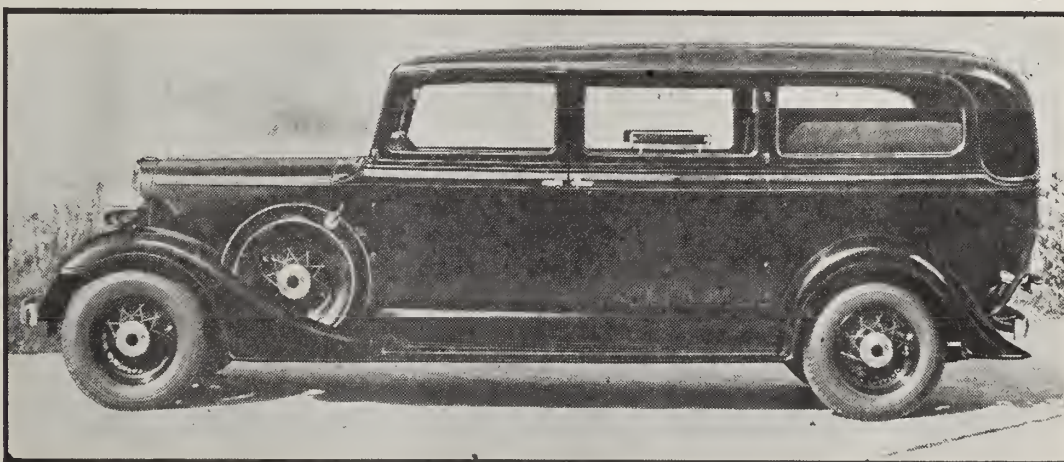
eration. Contusion and laceration may be direct or contrecoup. In 27 fatal cases of cerebral laceration observed by Vance (7), 6 had unilateral and 11 bilateral contrecoup laceration. Four had direct lacerations and 3 direct and contrecoup lacerations.

Hemorrhage. Hemorrhage associated with acute craniocerebral injury may occur either within or without the dura. When it occurs within the dura, it is the result of cerebral contusion or laceration and offers a graver prognosis than when the hemorrhage from the middle meningeal artery or lateral venous sinus occurs extradurally. Hemorrhage aside from that associated with infiltration of the cerebral cortex in contusion and laceration occurs much less frequently than the other pathologic lesions. It occurred in only 5 of McClure and Crawford's (4) 441 cases of craniocerebral injuries. In Vance's (7) 512 necropsy cases, 312 deaths were caused by subdural hemorrhage. Hemorrhage was most frequently associated with fractures of the posterior and lateral portions of the skull. In LeCount and Apfelbach's (19) series, fractures of the anterior fossa were most often associated with subdural hemorrhage, being found in every instance. Blood in the subarachnoid space is of importance not only because of the danger of cerebral compression, but also because it may become encapsulated and produce symptoms due to localized compression, and when absorbed by pacchionian granulations mechanical blocking of these may result. Absorption of the cerebrospinal fluid is interfered with, resulting in accumulation of fluid. Essick (25) showed experimentally that the injection of blood in the

subarachnoid space produced a sterile meningitis, whereas Bagley (26) found that the subarachnoid injection of blood in puppies caused dilation of the cerebral ventricles. Fay and Winkelman (27 and 28) found that blood in the subarachnoid space caused accumulation of cerebrospinal fluid between the arachnoid and pia and resulted in cerebral atrophy. Extradural hemorrhage occurs even less frequently than intradural, but it is of importance clinically because of the excellent results which can be obtained following the removal of the contained clot. It is usually the result of injury of the middle meningeal artery, one of its branches, or the lateral cerebral sinus. It is not infrequently associated with basal fractures, due to the intimate attachment of the dura to the base of the cranium. Extradural hemorrhage was recorded in 39.4 per cent of LeCount and Apfelbach's (19) necropsy series. In only 52 per cent, however, was the hemorrhage large enough to produce compression of the brain. Fractures of the middle fossa are most frequently associated with extradural hemorrhage, being found in 70.1 per cent of those cases of fracture of the middle fossa, and occurred in only 2.8 per cent of fractures of the anterior fossa. In Vance's (7) 507 necropsy cases, extradural hemorrhage was found in 106. The greatest number of extradural hemorrhages occurred between the ages of thirty and forty, which he believes is due to the fact that the dura is adherent just enough to the skull to allow laceration of the arteries, but not adherent enough to prevent its separation from the bone. The posterior branch of the middle meningeal artery is most frequently involved, being found in 25 of Vance's (7) 61

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cases.

In addition to injuries of the cerebrum, as mentioned above, injuries of the cranium and its coverings are of importance primarily because of the danger of injury or infection of the brain substance. Scalp wounds by permitting the entrance of microorganisms are of significance. Infections of the scalp may extend through the diploic veins into the substance of the bone or even directly into the cranial cavity, being carried as infected emboli through the emissary and diploic veins.

Fractures of the skull are of no importance unless associated with cerebral damage or unless compounded and unless there is marked depression of the fragment. Fractures of the base occur much more frequently than those of the vault, although clinical investigations show the reverse to be true. In Vance's (7) series of 512 autopsy cases the vault was involved in only 6.7 per cent, whereas the vault and base were involved in 91.9 per cent. In LeCount and Apfelbach's (19) series the vault was involved in 9.9 per cent and the base in 89.8 per cent. In clinical cases fractures of the vault are diagnosed far more frequently than those of the base. McClure and Crawford (4) in 441 cases found that 85.7 per cent of the fractures were in the vault and only 5.7 per cent were in the base alone. As explained by Vance (7), this difference is undoubtedly due to the fact that it is difficult to demonstrate roentgenologically fractures of the base, because of the complicated structure, whereas in relatively smooth contour of the bones forming the vault a defect produced by fracture can be readily seen on the roentgenographic films. Fractures of the middle fossa occur more frequently than those of the anterior and posterior fossae. In Vance's (7) series of cases, the middle fossa was involved in 45.2 per cent, the posterior fossa in 34.8 per cent and the anterior fossa in 11.9 per cent. In LeCount and Apfelbach's (19) series the anterior, middle, and posterior fossae were involved in 12.1 per cent, 32.9 per cent, and 35.3 per cent, respectively. Fractures of the base are especially apt to be compound because they may extend into the nose, the nasal accessory sinuses, the middle ear, the mastoid process, or mouth. Fracture of the base should have a guarded prognosis not only because of the danger of infection, but also because of the possible associated injury to cortical centers. Of 39 cases of fractures of the vault reported by Blahd (23), there was a mortality of 13 per cent, whereas in 20 cases of fracture of the base there was a mortality of 65 per cent. Of all the fractures, those which are compound are of greatest importance because of the possibility of the entrance of micro-organisms into the cerebral substance. Cushing (29) showed during the World War that debridement and primary closure of these wounds largely obviated the danger of cerebral infection and possible death. In addition to the compound fractures, depressed fractures may be of surgical importance, although it is the opinion of most authorities that the danger of depression of the fracture has been greatly overemphasized. Bagley (24) is of the opinion that depression is of little significance if the dura remains intact.

Diagnosis. The history is of great importance as regards the diagnosis of acute craniocerebral injury and probably of greatest importance is the history of unconsciousness. All extensive cerebral in-

juries are associated with unconsciousness, and the depth and extent of the unconsciousness is usually proportional to the degree of cerebral damage. In simple concussion the unconsciousness occurs immediately, but is only temporary, whereas in the more extensive injuries unconsciousness is prolonged. A period of unconsciousness followed by a lucid interval and later followed by unconsciousness is, as first described by Kocher (30), characteristic of a rapid increasing intracranial pressure which is almost invariably associated with intracranial hemorrhage, usually from the middle meningeal artery. The pulse rate is of value primarily in cases of shock, the rate usually being increased and the volume poor. In cases of rapidly increasing intracranial tension the pulse rate is decreased due to vagus stimulation and becomes progressively slower as the blood pressure rises. This, however, represents a severe degree of intracranial tension. A slow pulse may also be the result of blood in the cerebrospinal fluid, edema of the cardiac centers, and intracranial tension due either to middle meningeal hemorrhage or edema of the cerebrum. Fay (31) is of the opinion that a thready pulse in patients with head injuries is the result of lack of resistance in the capillary bed. This phenomenon he believes is of extreme importance, because of the anoxemia associated with the lowered vascular tension, which predisposes to further edema, because of the increased permeability of the capillaries as shown by Landis (32). The respiratory rate varies considerably in cerebral injuries. Fay (31) believes that the respiratory rate is of great importance, especially as regards the prognosis. He states that if above 26, it frequently indicates cerebral irritation, and blood is usually found in the spinal fluid. If the respiratory rate reaches 40 per minute, there is indication of severe cerebral damage. Hyperpnea is of importance, because of the hyperventilation with subsequent washing out of the carbon dioxide, and the development of alkalosis and edema. Decreasing respiratory rates, according to Fay (31), are usually the result of increased intracranial tension. In severe cerebral damage, paralysis of the respiratory centers with cessation of respiration may occur. The temperature may or may not be increased in cerebral injuries. Early,

Walter W. Robinson, M.D.

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shortly after the injury, the temperature may be subnormal due to associated shock. Later, especially in cases in which there is severe cerebral damage, the temperature is increased, even a hyperthermia may be present, which always indicates extensive damage and probably the presence of blood in the ventricular system. The blood pressure is markedly lowered during the stage of shock, in which instance, however, the cerebral damage is not responsible for the hypotension. In those cases in which there is rapidly increasing intracranial tension, such as that associated with a middle meningeal hemorrhage, there is a progressive rise in blood pressure as first suggested by Kocher (30). This is due to medullary edema and is associated with vasoconstriction of the peripheral vessels. The blood pressure readings, whereas of value in the cases of rapidly increasing intracranial tension, such as seen with hemorrhage, are of little value in the less severe cases of cerebral injury. Holbrook (33) states that there are many cases in which there is a markedly increased intracranial tension, but in which there is no significant blood pressure change. Gage (34) has shown that blood pressure changes occur relatively later than increases in intracranial tension. Fay (31) is of the opinion that the determination of the diastolic blood pressures is of great importance in the diagnosis and prognosis of acute head injuries. The diastolic pressure represents the resistance offered the circulating blood and without sufficient tension (diastolic), there is rapid loss of oxygen so that the blood reaching the capillary bed contains very little of it. As Landis (32) has shown, anoxemia increases the permeability of the vessels with the resulting edema. He believes that in this way a vicious circle is set up and that the diastolic blood pressure must be kept above 40 mm. of mercury. Probably one of the greatest diagnostic and therapeutic aids in acute head injuries is the determination of the cerebrospinal fluid pressure by means of a manometer. Jackson (35), in 1922, reported the results in 100 cases of acute craniocerebral injuries in which spinal fluid determinations were made and in which spinal taps were used therapeutically. The cerebrospinal fluid pressure was above 30 mm. of mercury in 14 per cent of the cases, the highest reading being 60 mm. In 34 per cent the pressure was between 20 mm. and 30 mm., and in 44 per cent the pressure varied between 10 mm. and 12 mm. of mercury. Spinal puncture was performed in 414 of McCreary and Berry's (36) 520 cases of cranial fracture. The spinal fluid pressure was increased in 209, normal in 185, decreased in 12, and not noted in 6 of the cases. Munro (37) showed that in cases with fatal head injuries the average intracranial pressure was nearly two and a half times higher than in the non-fatal cases. In 39.9 per cent of the 148 cases in which lumbar puncture was done in McClure and Crawford's (4) series, the spinal fluid was bloody, whereas in 60.1 per cent it was clear. In 83.3 per cent of the cases in which death occurred the spinal fluid was bloody. In 57 of Munro's (37) series the spinal fluid contained blood, whereas it was clear in 26. In Stewart's (6) series lumbar puncture was performed in 165 cases; bloody fluid was obtained in 90.5 and clear fluid in 10.4. In 414 cases in which lumbar puncture was done in McCleary and Berry's (36) series the fluid was clear in 13, contained blood in 398, and contained

pus in 3. Lumbar punctures are of value therapeutically in that the cerebrospinal fluid pressure can be decreased by the removal of the excessive amount of cerebrospinal fluid and also blood within the subarachnoid space can be evacuated. Bagley (26) showed that the subarachnoid injection of blood in adult dogs produced cerebral irritation, whereas in puppies it caused hydrocephalus. Fay (28) described a type of cerebral atrophy caused by collections of fluid in the subarachnoid space which is a sequel to subarachnoid hemorrhage. In contrast to these authors, there are a number who believe that lumbar puncture is dangerous. McClure and Crawford (14) believe that it should be done only in selected cases and the cerebrospinal fluid should be withdrawn slowly and carefully. Henschen (14), Besley (38), Sachs (39), and Dandy (40) are opposed to lumbar puncture in head injuries, because they believe the procedure is dangerous.

Treatment. The treatment of head injuries in recent years has consisted largely of conservatism. Fifteen to twenty years ago many cases of head injury were operated upon, the incidence of operation varying from 20 to 30 per cent (Sharp (41), Wilensky (42), Heuer (43), Naffziger (44)). In recent years the incidence of operation has definitely fallen. McClure and Crawford (14) in their series of 441 cases reported in 1928 operated upon only 4.3 per cent of the cases, and Fay (31) (1930) operated upon only 4.1 per cent. In the Charity Hospital series which we (1) studied, very few operations were performed and the results obtained in this group demonstrated the value of conservative treatment. In the decade from 1910 to 1919, only 5.2 per cent of the cases were operated upon, the incidence of operation decreased in the next decade to 1.6 per cent, and in the two years 1930-1931, the incidence of operation was 0.5 per cent. In the entire series of 1099 cases only 31 operations were done, an incidence of 2.8 per cent. The value of this ultraconservative treatment is shown by the results obtained in our series. In the entire group of 1099 cases there were only 92 deaths, 8.4 per cent. If one excludes those cases dying within the first twenty-four hours in which probably relatively little could be done, because of the extensive injury, there were only 43 deaths (a mortality rate of 3.9 per cent). The mortality rate in the operative cases was 25.8 per cent, whereas that in the non-operative cases was 7.8 per cent.

Patients with craniocerebral injury and in shock should be treated first for shock. The patient should be put to bed immediately, external heat applied, and hot fluid administered. The intravenous administration of hypertonic dextrose solution is valuable, because not only does it combat shock by filling the vascular tree with fluid, but also tends to prevent and combat the cerebral edema. Fifty cc. of 50 per cent dextrose solution are given intravenously and may be repeated in six to eight hours. Fay (31) warns against the use of adrenalin and caffeine in the treat-

R. W. HALL, M.D.

215-216 Standard Life Bldg.

Jackson, Miss.

Specialty: Dermatology, X-Ray and Radium
Laboratory

ment of those cases with shock, because frequently, although there is temporary improvement in the patient's condition, later there may be a depression of the circulatory and respiratory system. While the patient is still in shock he should not be subjected to an extensive physical examination because of the danger of increasing the shock. As soon, however, as recovery from the shock occurs, a complete, especially a neurological, examination should be made, especial care being paid to the cranial nerves, pupillary reflexes, evidences of discharge of blood and spinal fluid from the ears, nose, and mouth, and evidences of weakness or paralysis. A lumbar puncture with the determination of the cerebrospinal manometric pressure should be done as soon as the patient recovers from shock. In all cases of severe craniocerebral injury a pressure above 10 mm. of mercury is abnormal and enough fluid should be removed cautiously to decrease the pressure above 10 mm. of mercury by one-half; i.e., if the cerebrospinal fluid pressure is 20 mm. of mercury, enough fluid should be withdrawn to reduce the pressure to 15 mm. of mercury. Roentgenograms should be made because of their medico-legal value and also because they may show the presence of a depressed fracture. In cases in which there is a discharge of cerebrospinal fluid or blood from the ears, the external auditory meatus should be lightly plugged with sterile cotton saturated with alcohol. No attempt should be made to irrigate the auditory canal, because, as emphasized by Weaver (45) and Davis (46), there is danger of introducing the organisms into the meninges. Compound fracture should be treated by mechanical sterilization (debridement) as soon as the patient recovers from shock. The contaminated skin edges and brain tissue are removed by excision and suction, respectively, as suggested by Cushing (29) during the World War. Debridement of the scalp, as suggested by Weaver (45), is of utmost importance in head injuries, because infections of the scalp are potential brain abscesses. This is particularly true if there is a compound fracture. Morphine should not be used because it masks the patient's symptoms by depressing the respiratory center and producing somnolence. Another distinct disadvantage of morphine is that it increases the cerebrospinal fluid pressure. The subcutaneous administration of caffeine, because it is known to decrease the cerebrospinal fluid pressure, is of value as are other diuretics, such as diuretin. Probably both caffeine and diuretin act because of the diuresis which they produce.

Quincke (47), in 1905, suggested the use of repeated spinal taps in order to reduce the increased intracranial tension associated with acute craniocerebral injuries. Jackson (34) and Munro (37) have been recent champions of therapeutic lumbar drainage in cases of head injuries. Jackson (34), in 1922, reported 100 cases of acute craniocerebral injuries which were treated by repeated lumbar punctures, performed at intervals of from six to twenty-four hours. Fay (31) is of the opinion that lumbar punctures should be performed as often as a rise in pulse pressure and respiratory changes may indicate. Spinal tap is of value in acute head injuries not only because it permits a decrease in the cerebrospinal fluid pressure by withdrawal of excessive amounts, but also because blood in the cerebrospinal fluid may be removed. As

mentioned above, blood if allowed to remain in the subarachnoid space results in cerebral atrophy and occasional internal hydrocephalus. In cases with blood in the cerebrospinal fluid, relatively small amount of fluid should be removed in the first three to four days after injury in order not to rapidly decrease the intracranial tension, which might aggravate the hemorrhage. Dandy (40) warns against lumbar puncture at any time, because of the danger of increasing hemorrhage in cases of cerebral bleeding. Fay (31) believes that repeated lumbar punctures are necessary for a period of ten days when blood is present in the spinal fluid, because it takes this time before all the red cells are hemolyzed.

The intravenous injections of hypertonic solutions are of great value in decreasing the intracranial tensions. In 1919 Weed and McKibben (48) demonstrated that cerebrospinal fluid pressure and brain bulk could be influenced by the intravenous administrations of hypertonic and hypotonic solutions. Whereas the original solutions employed were hypertonic sodium chloride solutions, at the present time one is agreed that sodium chloride should not be used because frequently a subsequent edema developed which is more marked than the original. This is due to the fact that the injected sodium chloride becomes fixed in the tissues, resulting in subsequent retention of fluid. The intravenous administration of 50 per cent dextrose, because of its hypertonicity, is valuable in decreasing cerebral edema and in contrast to hypertonic sodium chloride solutions subsequent edema is not apt to occur because the dextrose is rapidly excreted in the urine and produces a diuresis. A secondary cerebral edema is less apt to occur than if sodium chloride solutions are used. Fifty to 100 cc. of 50 per cent dextrose may be given every six to eight hours. Fay (49), in 1923, advocated the use of magnesium sulphate by rectum and stated that the effect became pronounced within an hour. Magnesium sulphate administered either by mouth or by rectum is a valuable agent in dehydrating a patient with cerebral edema. It should not be used until the patient has completely recovered from shock because the loss of fluid is poorly tolerated by a patient in shock. One to three ounces of 50 per cent magnesium sulphate solution may be given by rectum without injury to the patient. Fay (49) found that magnesium sulphate was preferable to sodium chloride because the latter is dialyzable and an increased chloride content of the blood leads to a secondary tissue retention with a rapid return of symptoms after its administration. Magnesium sulphate, however, being non-dialyzable produces a rapid dehydration of the blood plasma by excretion of fluid into the intestinal lumen. Fay (49) found experimentally that magnesium sulphate was twice as efficient as a dehydrating agent in the intestine as the sodium chloride.

Operative treatment is seldom indicated in acute craniocerebral injuries. As mentioned above in the paper, the incidence of operations has definitely de-

DRS. O. S. McCOWN — O. S. McCOWN, JR.

GYNECOLOGY—UROLOGY—SURGERY

899 Madison

Memphis, Tennessee

creased. It is now quite generally accepted that decompression accomplishes little and is seldom necessary in cases of increased intracranial tension. The principal indications for operations are scalp wounds and compound fractures in which debridement should be done, large extradural hemorrhage in which operation permits the evacuation of the clot and the control of the hemorrhage, and infrequently the elevation of a depressed fracture. Depressed fracture is of significance only when there is actual compression of the brain substance and should not be done until the patient has recovered from the original shock.

Prognosis. The prognosis in acute craniocerebral injuries is bad. Munro (37) collected 2,908 cases from the literature with a mortality rate of 37.8 per cent. In the Boston City Hospital there is a mortality rate of 19.6 per cent in the cases of head injuries. In Fay's (31) series of 48 cases the mortality rate of those patients who survived the sixth hour after admission was 10.4 per cent, whereas in the entire group the mortality rate was 20.8 per cent. The value of conservative therapy is indicated in our own series in which a total mortality rate of 8.4 per cent was obtained and if those cases which died in the first twenty-four hours are excluded, the mortality rate was 3.9 per cent.

SUMMARY AND CONCLUSIONS

1. Head injuries are becoming more frequent and more severe.
2. The most frequent causes of head injuries are falls and blows on the head (37.9 per cent and 28 per cent, respectively).
3. Automobile accidents are relatively two and one-half times as frequent causes of head injuries in 1930-1931 as in 1910-1920.
4. The highest incidence of head injuries is in the first decade of life and with each succeeding decade there is a progressive decrease in incidence.
5. Injury to the cerebrum is the important factor in craniocerebral traumas. Cranial fracture is of no significance unless compounded and extensively depressed.
6. Cerebral lesions consist of concussion, edema, contusion, laceration, and hemorrhage.
7. History of injury, unconsciousness, and neurologic physical examination are of importance diagnostically. Diagnostic lumbar puncture is best indication of degree of cerebrospinal fluid pressure.
8. Treatment of head injuries should consist of conservatism; i.e., bed rest, repeated spinal taps, and dehydration by intravenous injections of 50 per cent dextrose solutions.
9. Operative procedure is indicated only in scalp wounds, compound fractures, massive hemorrhage, and depressed fractures.

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EUGENE ROSAMOND

Pediatric Diagnosis

Rosamond Clinic for Children

Madison Avenue at Somerville

Memphis, Tenn.

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Fraternal Recipe

A pinch or two of pleasantness,
A brimming cup of smile;
Another pinch of thoughtfulness—
Keep stirring all the while.
The spice of love to mingle through
The mixture as you go;
And laughter of a singing heart
To give the wonder glow.

A little dash of gratitude,
Another of good will;
A measure of the fortitude
That overcomes the ill.
In loveliness it creams.
A spoonful, stirring all the time,
Of romance and of dreams—
Then watch it as to some old rhyme

What are you making this strange way
You ask, and I reply;
A perfect life, a perfect day,
A sort of magic pie.
All spiced with tenderness, you see,
And sweetened with desire—
And some for you and some for me
To taste and never tire.

—Baltimore Sun.

Ocular Headaches*

EDLEY H. JONES, M.D., F.A.C.S.
Vicksburg, Miss.

This subject was chosen for presentation to this group for the reason that headache is the symptom that most frequently leads a patient to seek medical advice and that eye strain and other eye conditions rank second only to constipation as the most frequent cause of headaches.

Ocular headaches must be differentiated from pseudo-ocular headaches from sinusitis, migraine, syphilis, etc. True ocular headaches are readily divisible in four classes, due to:

1. Disease.
2. Errors of Accommodation (ametropia, astigmatism, etc.).
3. Muscular anomalies.
4. Asthenopia (weak eyes).

I. HEADACHES DUE TO DISEASE OF THE EYE

Headaches due to ocular disease are readily recognized as a symptom of the obvious pathology present. They accompany severe attacks of conjunctivitis and the majority of cases of keratitis, iritis and pan-ophthalmitis. These headaches are usually dull, occasionally throbbing, but never lancinating; they may be constant or intermittent; they are usually located in the eye and the frontal and temporal regions.

Headaches are present in all types of glaucoma except the chronic non-congestive type. In early simple glaucoma they are intermittent with irregular onset and usually dull; the pain is located in the eye. As the disease progresses the attacks become more frequent and more severe with periods of very severe lancinating pains shooting thru the eye. In acute glaucoma the pains are frequently terrific.

These headaches are relieved when the underlying pathology is corrected.

Another type of headache occasionally encountered is that due to photophobia, resulting from over-exposure to light, ultra-violet or infra-red rays. In the moving picture industry this condition is known as "Klieg's eyes," taking its name from the Klieg mercury lights. The cases we see are usually due to patients using electric or acetylene welding torches without goggles, or with faulty goggles. I have had one case due to looking steadfastly at a partial eclipse of the sun and several due to the flash of light accompanying the blowing out of electric fuses on a switchboard. This type is not always easily recognized. There may be no diagnostic signs present and the patient may consider exposure to light unimportant and

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HENRY G. HILL, M.D.
Clinic, 847 Madison Avenue
Memphis, Tennessee

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Cripples and Deformities	

forget to mention it. A careful history will make the diagnosis. This headache is relieved when the reaction to the light rays subside. Butyn and opiates may be used palliatively.

II. HEADCHES DUE TO ERRORS OF ACCOMODATION

Headaches due to eyestrain are comparatively common and usually easily recognized. The headaches are usually located in the frontal region but occasionally in the occipital region. They are usually dull, occasionally throbbing but never lancinating and become more severe with continued use of the eyes. There is usually a definite history of their onset following use of the eyes—particularly after knitting, sewing, reading, clerical work, moving pictures and long auto drives. as a rule the onset is during the afternoon or evening. After a night's rest the eyes feel good in the morning but with continued use, they tire and headache follows. These headaches are never constant, except in advanced cases. If a patient retires without a headache but arises with one, it cannot be due to eyestrain; this is obvious but of differential diagnostic importance. Of course, it is possible for a patient to have headaches from more than one cause; such a patient may be suffering with eyestrain and also with some other condition causing morning headaches. Another point is that headaches due to eyestrain are not usually relieved by aspirin. Relief follows rest of the eyes.

In most of these cases, the vision is impaired, but not always. It is a point of importance that a patient may be suffering with headaches due to eyestrain and still have normal vision for distance. Taking the near vision reveals a loss of accommodation, altho very occasionally this will also be normal. These cases are usually suffering with astigmatism. There is frequently an accompanying irritation of the eyes and the patient may complain of sensitivity to glare.

Examination will reveal whether the patient's refractive error is far-sighted (hyperopic), near-sighted (myopic), astigmatic, or a combination of these conditions. Relief is obtained by the use of proper glasses.

III. HEADACHES DUE TO MUSCULAR ANOMALIES OR DEFECTS

This type of ocular headache is so frequently overlooked or disregarded that I wish to especially emphasize it. You are all familiar with divergent and convergent strabismus. These cases are muscular anomalies but do not cause headaches because the visual image of one eye is suppressed by the brain. When a patient has such a muscular imbalance but of lesser degree, binocular vision is maintained by the fusion centre, but the strain on the muscles is sufficient to cause severe headaches.

This imbalance without double vision (diplopia) is called a phoria. Phorias may be vertical (hyperphoria) or horizontal (esophoria and exophoria). The vertical phorias are the more important because the symptoms are so severe and because they are usually relieved only by including a prism in the correction.

Despite the fact that these cases are of common occurrence and easily diagnosed, they are frequently overlooked. Optometrists do not usually include muscular tests in their examinations and inasmuch as

they are not supposed to treat pathology, this is considered correct practice. This means that any case of phoria who consults an optometrist for glasses will not have the benefit of proper ocular examination and will fail to obtain eye comfort. On the other hand, every oculist should include muscle tests with every refraction, tho this appears to be frequently overlooked.

In order to determine the frequency of these conditions, I reviewed my last 500 (consecutive) refractions. I found 21 (4.2%) cases of vertical phorias that needed prisms included in their correction and 26 (5.2%) cases of lateral phorias. The surprising thing is that of these 47 cases, only 3 gave a history that would suggest any muscular anomaly, yet 21 had to have special glasses and 6 others had to have special types of exercises in order to obtain relief—a total of 5.4% patients who would not have received relief by simply "being fitted with glasses."

The phorias are due to convergence excess, convergence insufficiency, divergence excess, divergence insufficiency, or combinations of these conditions. They may be influenced by toxin or foci of infection. The onset is usually gradual but occasionally quite sudden.

Of course there are other types of muscular anomalies but it is the phorias that usually cause headaches. These headaches are similar in onset, location, character and frequency to those caused by errors of accommodation (ametropia, astigmatism, etc.) but may have normal vision. They are at times accompanied by double vision (diplopia) or vertigo.

A diagnostic point in considering such cases is that by closing one eye for a sufficiently long period, the headache is relieved. One of my cases, a young lady of 20, found that the only way she could enjoy a moving picture show was to sit with one eye closed. Another suggestive point is that, on inquiry, a patient may recall that when the vision blurs while reading, at the exact moment of blurring the print appears to "double."

There are several tests but the Maddox rod is most commonly used. The examination can be quickly made. It is also of importance to determine the duction power in horizontal phorias; this can be quickly done with the Keystone Stereoscope, the Wootring Rotoscope and other apparatuses.

As inferred above, the vertical phorias are relieved by including a prism of sufficient strength in the correction. The horizontal phorias can usually be benefitted by proper muscular exercises, prism glasses, stereoscopic training sets, Orthopters, the Wootring Rotoscope and many other appliances that may be used.

IV. HEADACHES DUE TO ASTHENOPIA

This paper would not be complete without mentioning asthenopia or "weak eyes." This condition may be due either to errors of accommodation or to muscular anomalies. It may also be due to neurasthenia.

DRS. HENDERSON & HALL

Dermatology & Syphilology
Radium and X-Ray as applied in this field
1403-1407 Exchange Bldg.
Memphis, Tenn.

thenia, hysteria, improper illumination or to foci of infection. When due to errors of accommodation or muscular imbalance, it may be relieved by proper glasses or exercises but when due to other causes, glasses are usually unsatisfactory and the patient is relieved only when the causative factors are corrected or eliminated.

Herewith I present three cases of muscular anomalies that may be interesting.

CASE REPORTS

Case 1. M. G. M., 16 years, white school girl of Florence, Miss., came in Sept. 19, 1934, complaining of constant headache, unrelieved by aspirin, BC powders or purgatives, and of vision blurring after eyes had been used a very few minutes. At the age of 3 the eyes "crossed" and her mother took her to an "Eye Doctor" (really an optometrist) in Jackson. Altho her condition suggested pathology, he did not refer the case to an Oculist, but fitted her with glasses. The convergent strabismus was corrected and from time to time they returned to the same optometrist who re-examined her and fitted her. Three months before I saw her, she began suffering with headaches, blurred vision and irritated eyes. They returned to him but the glasses he prescribed failed to give her comfort. Examination revealed, beside the error of refraction, a 4 degree right hyperphoria. Including the proper prism in her new correction gave immediate relief. A letter received three months later stated she was getting along nicely.

Case 2. Mrs. E. W. P., 60 year old white housewife was out riding Nov. 4, 1934 and suddenly noted that when they passed another car, it appeared double. Examination revealed 14 degree exophoria for distance and 1 degree for near. This is unusual in that the near finding was within normal limits, while the distance finding was markedly abnormal. She was given muscular exercises, training with a stereoscopic set and later prism glasses for exercise only. On Feb. 14, 1935 examination revealed normal muscular balance. She was refracted, her lenses changed and has gotten along splendidly, tho she has continued to take muscular exercises at less frequent intervals.

Case 3. P. M., 6 year old girl came in Nov. 3, 1934. Mother had noted that if she looked at magazine pictures or cut out paper dolls when tired, the eyes crossed. Examination revealed marked esophoria. She was refracted under atropine and a full correction given. This controlled the condition until three months ago when the eyes would occasionally "cross" even while wearing the glasses. Since that time she has been given treatments with a stereoscopic training set and now has a hand stereoscope and cards for home exercise. Shortly I expect to give her rotary muscular exercises. She is getting along very nicely at present and I am in hopes of achieving permanent results without resorting to surgery.

Many other cases, some even more interesting, could be presented but these are fairly typical and I do not care to impose on your time.

CONCLUSION

In conclusion, I would like to remind you that headaches may be caused by errors of accommodation, muscular anomalies or weak eyes, even when the patient has normal vision. A careful history will indicate ocular examination. Proper ocular examination will include tests for muscular anomalies.

Appreciated Letters

Dr. W. H. Anderson, Editor,
Mississippi Doctor,
Dear Doctor Anderson:

I wish to take this occasion to congratulate you on receiving the contract with the Mississippi State Medical Association for publishing their proceedings beginning in 1936. I hope you all of success in this new undertaking.

From what I can gather, it appears that the doctors of Mississippi have no particular objections to our Journal, but that they were in favor of patronizing their home Journal. The praise and complimentary remarks that we received from the Mississippi physicians about our Journal leads me to the opinion that a great many of them will continue to subscribe to our Journal. We hope in this regard we may have your cooperation.

Again wishing you all a success, and with very best regards, I am,

Yours very fraternally,
P. T. TALBOT, M.D.,
General-Manager.

May 17, 1935.

Dr. W. H. Anderson,
Booneville, Mississippi,
My dear Doctor;

It is indeed gratifying to me, to know that the Mississippi Doctor, has been made the official Journal of Mississippi Medicine.

You already know that I have advocated this forward step, for several years. I believe it will do much to place Mississippi Medicine, where it rightfully belongs.

Mississippi, is probably the leading state in Community Hospital Service. These hospitals are adequately meeting a need in our social order, and with a Journal, sponsoring these institutions in an official capacity, they should do much to raise the standard of medical practice in the state, by serving as centers of medical education in the communities in which they operate.

If these hospitals could be correlated, and coordinated, and could become affiliated with a larger teaching hospital, Mississippi Medicine, would advance to the front ranks, in things medical.

Let me congratulate you, in seeing a dream come true.

Sincerely yours,
J. A. RAYBURN, M.D.

May 24, 1935.

Dr. Wm. Henry Anderson,
Booneville, Miss.
My dear Dr. Anderson:

While I am greatly disappointed of course that the Mississippi Medical Association did not continue with their contract with the New Orleans Medical and Surgical Journal, nevertheless I understand fully why they did not do so, and as long as they desired to give up this contract I cannot think of any better person to have than you. I congratulate you most heartily and wish you all success in your new undertaking.

Very cordially,
May 17, 1935. J. H. MUSSER, M.D.

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ern Ave., and Cherry Road.

Sterility*

W. H. BRANDON, A.B., M.D., F.A.C.S.
Clarksdale, Miss.

Sterility is one of the most important problems facing the gynecologist today. The study of sterility in the female requires a more thorough understanding of the physiology and pathology of the generative and associated organs than any other gynecological condition. However, the study of infertility and sterility has undergone great changes in the last decade. The tendency of the medical profession to attribute conjugal sterility solely to the abnormal conditions found in the female generative organs and to ignore the potentialities of the male, is rapidly disappearing. Due to the notable work of such men as Huhner, Meaker, Anspach, Rubin, Reynolds, and Macomber, and many others, the problem is approached by studying the couple rather than the individual.

Involuntary sterility is on the increase in all civilized countries. Reynolds and Macomber place the figure in this country at approximately ten percent. Many place the figures much higher. A condition so prevalent deserves our earnest consideration. A barren marriage is one of nature's tragedies; seldom is a childless union an entirely happy one. The longing for a child is especially felt by the woman. The maternal instinct in the human species is one of the most powerful of biological urges, the lack of an outlet of which not only portends monotony and longing, but a tragedy words cannot depict.

The following requisites of fertility as outlined by Mazer must, of course, be present: (1) Normal spermatazoa must be produced. (2) The spermatazoa must be undamaged after passing the male tract. (3) Insemination of cervix at ejaculation must take place, except in rare instances. (4) The endocervical secretions must be favorable to the life and activity of the spermatazoa. (5) The tubes must allow the descent of the ovum and ascent of the spermatazoa. (6) The ovaries must produce normal ova. The endometrium must be in a receptive condition—normal premenstrual endometrium.

A greatly increased knowledge of the causative factors underlying human infertility has pointed the way to a more adequate diagnostic study and more efficient treatment. Such procedures as dilation and curettage, the use of the intra-uterine stem, amputation of the cervix, plastic operations on the cervix, etc., have been replaced by more logical and simple investigative tests, such as Rubins, Huhners, and by conservative surgery where indicated. Meaker's plan of investigation is generally followed, with some modifications, as follows:

- I. { Male
Female
History
 - (a) Past (venereal)
 - (b) Present
 - (c) Sexual
- II. Female
Physical Examination

- (a) General
- (b) Local Gynecological
 1. Vagina
 - (a) Trichomonas vaginalis
 2. Cervix
 - (a) Normal (mucous clear)
 - (1) Normal viscosity
 - (2) Tenacious
 - (b) Lacerated
 - (1) Ectopian
 - (c) Endocervicitis
 - (1) With erosion
 - (2) With mucopurulent discharge
 3. Uterus
 4. Adnexa
 - (c) Laboratory
 1. Complete blood count; Wassermann test; Kahn test.
 2. Sedimentation; Urinalysis; blood pressure
 3. Cervical smears
 - (a) Fresh hanging-drop
 - (b) Stained

III. Female

Postcoital Examination (Huhner test)

- (a) Vaginal pool (1-2½ hours after coitus)
 1. Amount
 2. Consistency
 3. Spermatazoa
- (b) Aspirated Cervical Mucus
 1. Spermatazoa
 2. Pus cells
 3. Tenacity of Mucus

IV. Male

Physical Examination

- (a) General
- (b) Urologic
- (c) Condom or ejaculate

V. Female

Tubal Patency (Rubin test)

- (a) Carbon dioxide gas (or air)
 1. Antispasmodic drugs
 2. Repeated patency tests
- (b) Iodized oil instillation
 1. Fluoroscopic examination
 2. Roentgenographic examination
 3. Roentgenographic examination with combined oil and pneumoperitoneum.

VI. Female

Endocrine

- (a) Basal metabolic rate
- (b) Frank's test for female sex hormone in blood

VII. Male

Endocrine

- (a) Basal Metabolic rate.

These routine procedures, outlined above, are of course, interrupted at any point where the exami-

MRS. S. A. CARNs

Rt. 1 Biloxi

HOME OF JUGTOWN POTTERY AND
HAND WEAVING

On the beach between Gulfport and Biloxi

*Read before Memphis Obstetrical and Gynecological Society, Memphis, Tenn., Sept. 21, 1934.

nation reveals a definite cause for sterility. After removal of the cause, further tests may be made. Modern research has illuminated particularly four aspects of the causation of sterility: (1) the true significance of local genital abnormalities; (2) The influence of constitutional depressions; (3) the multiple incidence of aetiological factors; (4) the division of responsibility between male and female.

LOCAL GENITAL ABNORMALITIES

Major obstacles to fertility, in the male, are those conditions which interfere with spermatogenesis, such as atrophy or hypo-plasia of the testicles and inflammatory and other conditions which produce an epididymal blockade. Chronic prostatitis-vesiculitis may exert a very depressing effect on fertility, probably not by the direct action of hostile secretions upon spermatozoa in the vesicles and prostate, but rather by an interference with spermatogenesis in the testicles by blood borne toxins from the chronic focal infection. Other genital lesions appear to be of little importance with reference to sperm production. Broadly speaking, we may then say that local genital factors play a very small part in the male in the causation of sterility. Necro-spermia and oligo-spermia are far more frequently the result of constitutional depression than of lesions in male genital organs.

Various female genital factors are noted in cases of sterility. Many of these deviations from the strict genital normality affect fertility little, if at all. Familiar examples of conditions which in the past have been considered to effect sterility but which are known now to have but occasional importance in their effect on sterility are uterine displacements, fibromyomata, and acidity of the secretions. We find four causative factors occurring with marked frequency, namely (1) tubal blockade, (2) hostility of the endocervical mucus, (3) developmental arrest, (4) mechanical interference with ovulation.

Tubal occlusions may be partial or complete. Partial obstructions may be due to strictures, kinks, adhesions, plugs, or spasm. In any case, their presence is of importance as a cause of sterility. There may be a partial agglutination of the folds of the tubal mucosa or adhesions and angulations with so little thickening as not to be palpable. Uterotubal insufflation with the use of the kymograph, as popularized by Rubin or hysterosalpingography, with the use of a radio-opaque oil, such as Lipiodol, or Diodrast are the methods that we prefer to determine the patency of the tubes. Being cognizant of several reports in the literature of various minor or major accidents following the injection of Lipiodol, we began the use of Diodrast. We have found that this media gives us excellent results without the danger of Lipiodol. If Diodrast penetrates the uterine mucosa or enters a permeable uterine or ovarian vessel, no harm will be done. Where the Rubin test is unsatisfactory or inconclusive, or where a permanent record is desired, we use radio-opaque oil and x-ray. In fact, we prefer this method in a great many types of cases, such as locating the level of the occlusion, or determining whether the occlusion is unilateral or bilateral. Another advantage following the use of radio-opaque oil for salpingography is the not infrequent finding of patent tubes following one or more injections of radio-opaque oil. Jarcho reports a case of bilateral

tubal occlusion which ten months later showed a normal picture. Pregnancy, following the opening of the tubes by insufflation or oil injection, is a not infrequent occurrence.

Excessive viscosity, with the formation of an inspissated plug, frequently may entangle and kill the spermatazoa.

Some degree of female genital hypo-plasia may be seen in a large number of cases. The real significance of this condition lies, not in the genital hypo-plasia, but in the concomitant failure to develop of the ovaries and their consequent defective ovulation.

Amenorrheic and irregularly menstruating women are invariably of low fertility, since infrequent menstruation implies an associated infrequency of ovulation with a relative reduction in the changes of fertilization. Pregnancy can and does occur, however, in the course of amenorrhoea and menstrual disorders are sometimes permanently cured by chance pregnancies. Regularity of the menstrual cycle can not be taken as conclusive evidence of normal ovaries and extragenital glands. Regularly menstruating sterile women, in whom we can find no constitutional or local condition to account for their sterilities and whose mates are known to be fertile, must be classed as cases of endocrine origin, even when they show no definite stigmas of existing endocrinopathies.

A thick tunica albuginea interferes mechanically with ovulation. Prolapse of the ovary and adhesions around the ovary may prevent the ovum reaching the mouth of the Fallopian tube.

CONSTITUTIONAL DEPRESSIONS

Recent experimental work has shown that many types of constitutional disturbances produce an impairment of the reproductive capacity and a high incidence of certain constitutional abnormalities has been found in many sterile human matings. It has been found that these disturbances produce a depression of the vital functions, as shown objectively by laboratory measurements and metabolism determinations. Again, such disturbances cause a deficiency, in the male patient, in the quantitative evaluation of the semen in regard to number, morphology, biometrics, motility, and endurance of the spermatazoa, and improvement is shown when these deficiencies are corrected. It is also a matter of clinical experience that the treatment of these constitutional faults in one or both partners often results in a cure of sterility. These constitutional factors which thus depress fertility are endocrine disorders, chronic intoxications, metabolic faults of extrinsic origin, and conditions of general debility.

The most common endocrine disorder is an underfunction of the pituitary gland, with the thyroid gland following close behind. Only a small number of primary ovarian endocrine failures are seen, as is the case of testicular endocrinopathies. Rowe believes that the testicle ceases to function as an endocrine gland after adolescence.

Focal infections, of the chronic intoxications,

DR. E. M. HOLDER

General Surgery and Gynecology
Suite 302 Physicians and Surgeons Building
Baptist Hospital Annex - 899 Madison Avenue
Telephones: Office 6-2184; Res. 8-1640
Memphis, Tenn.

are easily the most common. Such other causes as colonic stasis, hepatic toxæmia, poisons, as lead, alcohol, etc., and such diseases as malaria and syphilis lead to infertility.

Errors in diet and lack of sufficient exercise to insure proper assimilation are the source of metabolic fault of extrinsic origin. Negative nitrogen balance, with protein intake below the maintenance level, leads to subnormal metabolism, which is a source of imperfect gameto-genesis. There is no true causative relation between obesity and sterility, although the obese are frequently found in the infertile column.

General debility lowers fertility frequently. Poor hygiene is a frequent factor. The strain of the present day life, with its excessive demands on the reserve energy, is particularly seen among the better classes.

MULTIPLE INCIDENCE OR CAUSATIVE FACTORS

In the above conditions conducive to infertility just enumerated, there are more than forty different factors which will affect the fertility of a couple. Frequently one or two such factors will be revealed in the thorough study of a fertile couple, whereas the sterile couple will show from four to eight such conditions. It is a well known fact that the human is a poor breeder, as compared with other species. Absolute sterility may be caused by only one factor, such as the complete blockade of the genital passages or a complete gametogenetic failure. There are usually, however, more than one such definite cause. The spermatazoa may be produced, but the abnormal heads may be more than 20 percent and the number may be below normal, although the sperm may be actively motile. Thus some pathology in the passages, while not completely blocking the sperm, may cause a state of relative fertility.

A graded scale of relative fertility-sterility is conceivable, with the lowest limit one of absolute sterility and the upper limit one of absolute fertility. A fertility level lies midway between these Utopian and Stygian conditions, with the fertility or barrenness of the couple depending on how far above or below this level they may chance to be. The number and character of inhibiting factors present determine the position in this scale that any given mating may occupy with respect to their fertility-sterility. A single impediment to fertility may be overcome, but four or five such factors is usually sufficient to depress the fertility of a mating below the threshold of conception. It is of basic importance to appreciate that in the ordinary clinical case, sterility is due, not to some one abnormal condition, but to a summation or totality of several causative factors. Too often, the first discovered abnormality is accepted as the sole cause of the sterility, with a resulting inadequate treatment and unsatisfactory results.

DIVISION OF RESPONSIBILITY BETWEEN SEXES

It is an exceedingly complex problem to allocate the individual responsibility for infertility to one individual. In the majority of the cases, about one third of all demonstrable causative factors may be conceded to the male and two-thirds to the female. But the story is not told here. In many instances, either member of the pair would be able to reproduce if mated with a highly fertile mate. Therefore, it is a virtual impossibility to say absolutely that the fer-

tility level of one individual is such as will or will not allow procreation, unless such an individual is absolutely sterile. A considerable degree of relative sterility in one partner may be overcome by high relative fertility in the other; or a moderate relative fertility may be counteracted by a somewhat more than moderate degree of relative sterility. The usual clinical problem is a sterile mating due to the combined action of several causative factors, an aetiological sum total to which both partners in some way contribute.

METHODS OF DETERMINING THE DEGREE OF MALE STERILITY

There are two methods generally used, the study of the condom specimen and the search for spermatazoa in the postcoital cervical secretion. These should be studied jointly, as the condom specimen will show the presence of actively motile sperms, their morphology, and biometrics, but will not show the effect of the cervical mucus on the sperm. Kurzrok and Miller found that the normal specimen of semen will dissolve the cervical mucus. However, they found that one sample of cervical mucus might be dissolved, while a sample of cervical mucus from another woman might remain unaffected, thus showing that an otherwise normal spermatazoa might not have an universal lytic action, and thus might explain an otherwise unexplainable case of sterility. Where a condom specimen shows an abnormality of the sperm, the repeated finding of dead spermatazoa in the postcoital cervical secretions of a woman who is free of cervical infection, indicates a biochemical incompatibility between the cervical secretions and spermatazoa.

Dysfunction of the thyroid gland, as evidenced by clinical signs and basal metabolic disturbances in both male and female, is known to reduce fertility. When a subnormal function is suspected, it is better to take the average of several metabolic determinations. In the absence of subnormal findings, but with a clinical evidence of lowered thyroid activity, small doses of thyroid gland, under close supervision, is recommended. This type of organo-therapy has been most successful.

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HENRY G. RUDNER, M.D.

Clinic—Internal Medicine

1108 Madison Avenue

Memphis, Tenn.

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150 Yazoo Avenue.

Ward Rounds

ISIDORE COHN, M.D., F.A.C.S.*
New Orleans, La.

In the operating room the visitor expects to see at times spectacular procedures, unusual operations and technical details.

Many visitors are not concerned with the following important factors: whether the operation is well planned, based upon adequate pre-operative study, nor does he concern himself with what happens after the operation, particularly with reference to the post-operative treatment and the course of the patient.

The ward rounds before and after operation are largely the measure of the surgeon. They may not, however, give an estimate of the operator. It is the surgeon and his work which concerns us in this presentation and we will, without further ado, proceed with an ordinary ward round at Charity Hospital.

The particular ward under consideration is a negro female surgical service. At this time there are in the ward several varieties of diseases of the breast, thyroid disease, tumors of the mandible, two cases of purpura, several varieties of the ever present appendix and masses in the neck.

This bird's eye view gives one some idea of what is to be gained by more than a routine look in on the ward.

Let us take for example the thyroid cases first for study.

A few years ago thyroid disease in any strata of our southern, more particularly Louisiana population, was rare. At the present time we are seeing a comparatively large number of thyroids in this service of nineteen "colored beds." The cases seen belong to almost every type of thyroid disease described.

During the past two years there have been in the service cases of acute suppurative thyroiditis, adoles-

cent goitre, nodular toxic and nodular non-toxic goitre, diffuse non-toxic and diffuse toxic goitre as well as malignant diseases of the thyroid.

Each case which presents for study has in addition to the routine physical examination an X-ray of the chest, one or more basal metabolic readings, dependent on the type, a blood examination, including blood chemistry, a cardiogram and a consultation with the laryngologist. This routine is not merely done as a means of compiling scientific data, but each procedure is intended to throw a distinct light on the future handling of the case.

The X-ray is of particular significance in that it will throw light on the size of the heart and it should also indicate whether there is a substernal enlargement of the thyroid. The knowledge of the presence of a substernal goitre is of great importance before operation, especially if the goitre has existed for a long period. If a substernal enlargement has existed for a long time there is one thing which should be known and that is the amount of deviation of the trachea. It is well to remember that substernal enlargements usually result from a nodular goitre (adenoma of the lower pole of one lobe). The deviation of the trachea will be to the opposite side. Furthermore if a goitre has been present for some time it is possible that absorption of tracheal rings may have taken place. If these facts are not accounted for before hand great distress may be experienced at the operating table, such as sudden release of the firm hold which the thyroid tumor had on the trachea may allow a sudden collapse of the trachea and a consequent asphyxial death if precautions to avoid this are not taken pre-operatively.

The precautions necessary to avoid this disaster are:

1. X-ray of neck and chest.
2. Lipiodol instillation into trachea to outline deviation of it.
3. Intra-tracheal anesthesia.
4. In operating one should adopt the suggestions of Frank Lahey with reference to lifting the substernal mass out of the mediastinum.

The value of an intra-tracheal anesthesia can hardly be estimated for two reasons, first, there is no danger of tracheal collapse and, secondly, there is no respiratory distress experienced during the procedure. The pressure of and the pull on the thyroid tumor does not interfere with free inspiration and expiration through the intra-tracheal air way.

The basal metabolic reading indicates in a measure the need for pre-operative medication.

The usefulness of iodine in the preparation for operation cannot be exaggerated. Iodine, either in the form of Lugol's solution, sodium iodide intravenously or iodostarine by mouth, given over a period of ten days reduces the metabolism in most cases to a safe level.

There is one controversial point in reference to the administration of iodine. Goetch and many others

GILBERT J. LEVY, M.D.

Practice Limited to Diseases of Children
and Communicable Diseases.

20 S. Dunlap St.

Memphis, Tenn.

*Professor and Head of the Department of Surgery Graduate School of Medicine, Tulane University Associate Senior Surgeon, Touro Infirmary.

state that iodine is unnecessary in nodular toxic goitre, the so-called toxic adenoma. On this point it is my practice to give Lugol's solution to these patients because it is our belief that the same substance is responsible for the stimulation of the sympathetic system in all types of toxic goitre, and it is certain that the regressive changes produced by iodine are the same in all forms of thyroid hyperplasia.

It should be emphasized that iodine should not be given over long periods of time, and under no circumstances should it be considered except as a means of preparation for operation.

One last word about iodine in thyroid disease--there are a certain number of patients who are unable to retain Lugol's solution by mouth, and a small group who are delirious. These patients can be stabilized best by the administration of sodium iodide intravenously, in doses of $7\frac{1}{2}$ to 15 grains, once daily for several days.

The cardiogram indicates in a measure the amount of heart muscle damage.

Within recent years the effect of thyroidectomy in decompensated heart cases has been appreciated and therefore the inter-relationship more clearly indicated.

Last, but not least, one should not operate on a thyroid without first having a laryngeal examination. Pressure on the recurrent laryngeal nerve may have caused a paralysis of one of the vocal cords. Failure to obtain this information pre-operatively may cause embarrassment and necessitate needless post-operative explanations.

To obtain the above data requires no extra time, but can be arrived at while the patient is resting and being prepared for operation. Every safeguard thrown around the patient before operation combined with an anatomic operation which is gently and expeditiously done diminishes the post-operative worries.

The post-operative treatment as observed in our service consists in the maintenance of the fluid balance (with intravenous drip and fluid by mouth as soon as the patient can take it without vomiting). Morphine in adequate amounts to favor rest and diminish psychic disturbances, as well as Lugol's solution during the first forty-eight hours at least by rectum.

The morbidity and mortality in thyroid disease will diminish in proportion to the attention to details of management on the part of the surgeon and his associates.

As we proceed with our ward rounds we see several cases of carcinoma of the breast. Cases which have been operated recently, those waiting to be operated and then we see the unfortunate who has come under observation too late with extensive metastases or the recurrent case with metastases in the skin as well as distant skeletal or pulmonary metastases.

Everywhere in the literature one finds such splendid phrases as "cancer is curable in the early stages," "educate the public," and lastly the one which strikes home so forcibly, "early diagnosis leads to greater percentages of cures."

Before I forget it is necessary to say that unless statistics are made up from vast numbers of cases, impartially selected, they are of no value.

As we see these patients in all stages we are forcibly impressed with the fact that the necessary edu-

cation of the public has not permeated to the negro population, and I might add from some personal observations from private practice that the same may be said in lesser degree of the white population.

Education must permeate our own ranks if we are to educate the public.

Education not only to the need for operating when the disease cannot be mistaken, but education to a fuller appreciation of the necessity of more careful histories and methods of examination. If this is accomplished only those patients who may be offered some hope of an ultimate increase in life expectancy will be operated.

The early diagnosis about which so much is written is dependent on the impression which we can make in our communities through our advice and the care which is taken in trying to do more than merely palpate the breast and advise operation.

Examination of a patient is more than palpation.

Inspection may disclose in many cases information of the utmost value. The breast may be slightly asymmetric, one nipple being on a slightly higher level, there may be a very slight elevation in one quadrant of the breast and the skin changes, if present at all, may be so slight as to escape notice except by a careful observer. The "pig-skin" appearance is not always evident. Elevation of the arms may show a greater lifting of the affected breast. The nipple is not always retracted, elevated or deformed when a small lesion exists.

Palpation of the breast with the palm pressing the breast against the chest wall has the effect of ironing out the normal breast and enables one to palpate tumors much more effectively than picking the breast up between the fingers. It is true that when some cases present themselves a large mass is already present, the skin may be of the "pig-skin" variety, glossiness and telangiectases, as well as fixation of the tumor firmly to the skin, are present. In some of these unfortunate patients ulceration has also taken place when they first present for examination.

Palpation of the axilla for enlarged glands does not always reveal their presence even though at operation a definite chain of glands is found.

The finding of supraclavicular glands places the case in the category of inoperables.

No case should be operated on without at least an X-ray of the chest. Here many surprises are in store for the surgeon. Physical examination may and often does fail to reveal mediastinal and pulmonary metastases which are shown by X-ray.

It is wise to note carefully on the X-ray the appearance of the ribs and vertebrae as metastases may be present in the skeleton when the lungs are not involved.

If a patient with a breast tumor has complained of lumbar pains be sure to investigate for possible metastases to the dorso-lumbar vertebrae and the

D. H. ANTHONY, M.D., F.A.C.S.

Eye, Ear, Nose & Throat

1720 Exchange Bldg.

Memphis, Tenn.

pelvic bones.

Emphasis is laid on the need for X-ray investigations pre-operatively because of the number of patients who return a few months following so-called radical operations with metastases in the lungs, liver and skeleton. It is probably that some of these patients would not have been subjected to surgery if the condition had been known prior to operation.

When one comes to select an operation for the radical removal of breast cancer he should be guided by certain well accepted principles. The primary consideration must not be given to the immediate closure, but an adequate amount of skin must be sacrificed in the vicinity of the growth.

An effort should be made to avoid placing an incision on the arm because contractures of the scar tissue will limit movement of the arm.

Adequate exposure of the axillary vessels is essential.

Dissection should be sharp and not of the dry sponging type.

The two types of removal of the axillary content are different as wielding a violin bow and scrubbing a floor.

Avoid hemorrhage by clamping vessels, tributaries to the axillary vein and branches of the artery, before sectioning them.

Ligation of the vessels and removal of clamps will avoid having many clamps cluttering the field and will also avoid the accidental tearing of an axillary vein with a consequent hemorrhage.

At all times keep the chest wall protected with hot moist towels.

If one has not had to sacrifice too much skin a closure can be accomplished.

Freedom of motion of the arm should be encouraged after operation.

The above requirements for a useful operation are met with by the Stewart type of transverse incision which I have been using for twenty years.

Post-operatively these patients must be given fluids by the most effective methods.

It is important that post-operative radiation should be instituted as soon after the operation as possible. One need not wait for complete healing of the wound. This holds true particularly in cases in which complete closure has not been possible.

Deep therapy is instituted first and skin grafting done at a later date if the wound has not entirely healed by that time.

Interest in this type of case cannot help being heightened when one sees skin metastasis, pulmonary and mediastinal involvement and almost generalized skeletal involvement which comes under observation in a large institution which draws its population from a widely disseminated area.

* * *

As we proceed on our ward rounds we next see the patient bleeding from the gums, rectum and vagina, whose skin is peppered by petechial hemorrhages, whose pulse is rapid, weak and the patient looking anxious.

Immediately you are impressed with the need for action. The question arises is there other evidence on which one can arrive at a diagnosis and what can be done for the patient.

What does the blood picture tell us? Looking at

the chart one sees that the platelet count is greatly reduced. The bleeding time is prolonged, The coagulation time is normal and the clot does not retract. There is a marked secondary anemia.

Here we have a typical picture of purpura hemorrhagica, true thrombocytolytic purpura. This disease is sometimes called essential thrombopenia on the false assumption that the platelets are not formed in normal number. They must be formed in normal amount and destroyed by a hyperactive reticulo-endothelial system otherwise they would not appear so early after operation.

With the above clinical and hemotological picture before us operation is indicated at once. At present nothing else effectively cures these patients. Transfusions of whole blood give temporary relief, but sustained improvement comes only from splenectomy.

The development of our present therapy of purpura hemorrhagica is the natural outcome of increasing information with reference to the formed elements of the blood and the functional relationship of the spleen and other members of the reticulo-endothelial system to the formed elements of the blood.

Splenectomy has within the past fifteen years become the specific therapeutic measure for purpura hemorrhagica.

My first case was done in 1923 on a boy five and one-half years. This child had had repeated subcutaneous hemorrhages which were controlled temporarily by transfusions. Just about this time Brill and Rosenthal made their first contribution on splenectomy. At once I investigated the work of Katznelson and Frank. The arguments for the operation were so convincing that we decided to give this child the benefit of the method of treatment. From the date of the operation to the present time he has never had a recurrence of his bleeding. He has developed physically in a remarkable manner.

Since that time our enthusiasm has ripened into a conviction based on added experience. In some instances the results have been most spectacular. On several previous occasions I have cited my experiences with splenectomy and now I want to add one of my most convincing cases.

Case M. T., colored, female, age 26 years. This patient had been on a medical service for one month. She had received repeated citrated transfusions, in spite of which she continued to bleed profusely from the gums, the stomach, rectum, vagina and into the subcutaneous tissues. She was running a septic temperature, the pulse was weak and thready, the skin was parchment-like and there was a large decubitus ulcer. To add to the bad outlook the patient was in a semi comatose condition.

When I saw the above clinical picture I ad-

J. M. DORRIS, M.D., F.A.C.S.

General Surgery

Traumatic Neurosurgery

402 Physicians and Surgeons Bldg.

Telephone 6-3288

899 Madison Ave.

Memphis, Tenn.

vised an immediate splenectomy as a last resort.

The operation was done one year ago. The patient had a long tedious convalescence but she has had no further bleeding.

Just here it is only fair to state that the post-operative care given this patient by the Nursing Staff headed by Mrs. Godchaux and the attention to details by Dr. Carroll, our intern, aided materially I believe in the recovery of this patient.

While splenectomy removes an agent which has been destroying platelets, the maintenance of the fluid balance and the feeding of the patient are important factors. The continuous intravenous drip as first proposed by Professor Matas and feeding with an indwelling nasal catheter are the means which were utilized so effectively in this and similar cases.

When considering the indications for splenectomy in purpura hemorrhagica one must not feel it essential to find a large palpable spleen. It must be remembered that the spleen has to be one and one-half times its normal size in order to be palpated.

It is essential, however, to be certain that one is dealing with true purpura and not purpura simplex or hemophilia. The findings are so definite that there should be no mistake.

There are other diseases for which splenectomy is equally as spectacular, hemolytic jaundice and splenic anemia. On previous occasions I have discussed the differential diagnosis and indications for operation in these diseases.

Recovery of purpura hemorrhagica patients following splenectomy is the source of gratification when one considers the almost hopeless outlook prior to the last fifteen years.

(To be continued)

Dr. W. C. Spencer

Dr. W. C. Spencer, 81, of Verona, who had long been recognized as one of North Mississippi's leading physicians, died at his home May 20, after an illness of several weeks.

Dr. Spencer was educated in Memphis and New Orleans more than 50 years ago, and up until a few years ago, had been active in his practice.

He is survived by his wife and six children, Mrs. B. White, Corinth; Mrs. Nina Boyette, Jackson; Luther Spencer, Verona; Dr. C. E. Spencer, Verona; Dr. Shelby Spencer, Waco, Texas, and Sidney Spencer, Bogue Chitto.

Dr. W. C. Spencer was a choice spirit in the profession. For about half a century he was active in serving the people and relieving suffering. He was a man of fine judgment. He had poise. He was dignified, but kind and courtly with a professional air always. He labored that others might have life and have it more abundantly and with less pain. He practiced the art as evidenced by eighty-one years of activity. Kind thoughts of his noble work, eternal rest to his soul, sympathy to the bereaved ones.

Post Graduate work, much of it, must and will be carried out to the busy practitioner. We are having some fine courses in our state at this time. It is a great step forward.

Some General Remarks Concerning Anesthesia With Particular Reference to the Use of Evipal*

W. H. PARSONS, M.D., F.A.C.S.
Vicksburg, Miss.

The history of anesthesia is quite ancient, in age approximating that of surgery itself. In the time of Nero poppy syrup was employed to lessen the pain of burns and Hippocrates was acquainted with the use of opium, mandrake and Indian hemp. Such crude agents, administered purely empirically, obviously were not ideal, and for that matter, despite the voluminous literature that has developed with the periodic crowning of some new agent or technic, the ideal anesthetic still eludes us.

Davy, in the latter part of the 18th century, noted the anesthetic properties of nitrous oxide, but the brilliant lead of this chemist was allowed to lie dormant until finally, in 1842, Crawford Long performed the first operation under general anesthesia. Considerable controversy arose as to whether Long or Morton was entitled to priority, but it has been well established that Long, a modest and unpretentious practitioner of Georgia, antedated Morton by three years.

Chloroform was developed later and while gradually it came to be regarded as an exceedingly dangerous anesthetic agent, it continues to be used relatively often in certain localities with seemingly reasonable safety. I hold no brief for this particular agent, but I doubt if it is as dangerous as one would be led to believe and it is possessed of certain merit not generally accredited to it.

In 1879 cocaine was discovered and in 1884 the first premeditated use of cocaine for nerve blocking was done by Halsted and Hall (1). Neuro-regional anesthesia had its inception, and in all its modifications is based upon, the principle of blocking formulated by Halsted. Matas sufficiently perfected the technic of regional anesthesia and so generously trained and greatly stimulated his younger associates in the use of the method, that for many years (1895 to 1915) the majority of operations performed at the Charity Hospital in New Orleans were performed with the aid of regional block.

Corning in 1886 announced his discovery of epidural and spinal anesthesia. The wave of unbridled enthusiasm for the method which followed has alternated with periods of depression to this very time. Matas (2) regards spinal anesthesia as "the supreme attainment of regional anesthesia," but he objects "to the routine, indiscriminate and wholesale use to

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which it has been put in many quarters." Those interested in the whole subject of anesthesia, both local and regional, are referred to the very comprehensive presentation of this matter by Matas (1).

Not content with any of the agents previously mentioned, the search continued so that during the past 10 years other agents, notably Avertin, to be administered per rectum (and by some intravenously) and the Barbiturates, the latter employed both by mouth and intravenously, were developed. These drugs have been largely employed, in addition to serving their purpose alone, as a basic or synergistic anesthesia. Today their greatest field is probably as an adjunct to ether, the gases, or regional block.

I wish to discuss briefly and to report our experience with the drug Evipal. This preparation, introduced largely to American surgery within the past eighteen months, developed during the year 1933, in the German periodicals, a rather voluminous literature.

It must be admitted at the outset that intravenous anesthesia, and it is by this route alone, if at all, that this drug has unusual merit, possesses the objectionable feature incident to spinal block or rectal injection, of non-controllability. Evipal, however, is very quickly eliminated and it does not seemingly produce permanent or irreparable damage to any organ or tissue. The drug is decomposed in the liver and its destruction and elimination does not affect the kidneys. White and Collins (3) state that "repeated doses failed to damage the liver, but excessive doses were marked by arrest of metabolism and fall of body temperature." No significant changes have been noted in the alkali reserve or blood sugar following its administration either by other observers or by me. Experimental studies have shown that the lethal doses is four times that required for anesthesia, it would seem a reasonable margin of safety.

White and Collins (3), without discussion of the biochemical action of the drug, relate its clinical behavior in a series of 100 patients subjected, under Evipal anesthesia, to surgery. Various types of surgical procedures were performed. Anesthesia was satisfactory in all cases and in none did untoward reactions occur. Their cases were carefully studied and accurate observations were made in each instance regarding the effect of this drug on the circulation, the respiration, and the chemistry of the blood. No significant or undesirable effects were noted.

Our own experience has coincided with the observations of White and his associates. Anesthesia has been induced in each instance within sixty seconds of beginning the injection and patients have, with one exception, reacted within twenty minutes. The exception was in the case of a young negro male who, according to the story, had not slept for a prolonged period prior to the administration of the anesthetic and may well have been suffering natural fatigue. No alarming symptoms developed in this case and it was not necessary to hospitalize the patient.

The blood pressure generally falls, the depression averaging ten points and returning by the termination of the anesthetic to the normal level. The action of Evipal in this respect differs sharply from spinal block or amytal intravenously. It is unnecessary to administer ephedrin or similar drugs to guard against

excessive vascular depression, for the cardiovascular system seems not at all affected by Evipal. Patients affected with hypertension, likewise, are suitable candidates for Evipal—a condition eminently untrue if spinal anesthesia is contemplated. However, Evipal is not and will never be a rival of spinal anesthesia. Its action is too brief, except in the occasional case, to compete with this drug.

The pulse rate is usually moderately depressed; the respirations become slightly retarded and full, approximately those noted in deep natural sleep. The induction in each instance has been perfectly smooth; two patients only have reacted noisily and few have suffered nausea. There have been no undersirable sequelae encountered.

My associates and I have employed Evipal as the anesthetic agent in a total of 100 cases, embracing the following procedures:

- Dilatation of the rectum.
- Sigmoidoscopic studies.
- Incision of acute abscesses.
- Extraction of teeth.
- Tonsillectomy.
- Diagnostic curettage.
- Appendectomy.
- Pelvic procedures, such as salpingectomy.
- Hernioplasties, both inguinal and epigastric.
- Release of intestinal obstruction.
- Amputation of tongue.
- Enucleation of eye.
- Major amputation.
- Reduction of fractures.

There have been no deaths and no severe reactions.

The administration of Evipal is exceedingly simple. The solution is freshly prepared by dissolving one gram of Evipal in 10 cubic centimeters of sterile water. The injection is best given at the rate of one cubic centimeter per ten seconds. The drug, as indicated previously, is rapidly eliminated and if injected more slowly, an unsatisfactory result may be anticipated. If injected much more rapidly, artificial respiration for a few minutes may be required. On one occasion I have had this experience. The heart action remained perfectly normal; the blood pressure was not unduly depressed and after about one minute, normal breathing was resumed. There were no undesirable sequelae.

The injection should not be made until the operative field has been prepared and draped. Anesthesia is complete by the time the injection is finished.

Any agent incapable of inducing anesthesia of longer than twenty minutes duration must occupy at best a very restricted field. And certainly any drug of service mainly, if not exclusively, in the performance of minor or relatively simple major procedures, must offer almost absolute safety if it is to be of value. It appears from a study of available literature that Evipal may be able to meet the requirement of safety. If such proves to be the case, a valuable ad-

WM. MILTON ADAMS, M.D.

Practice Limited to Plastic and Reparative Surgery
Suite 410-414

Physicians and Surgeons Building
899 Madison Avenue
Memphis, Tenn.

dition to our armamentarium has been made.

SUMMARY

(1) A brief historical survey of the more common anesthetic agents is offered, together with certain comments concerning their use.

(2) Particular attention is called to a relatively new drug, "Evipal."

(3) Especial significance is attached to the apparent safety of Evipal, the prime requisite for any proposed anesthetic agent.

(4) It is suggested that the drug not be employed if extensive hepatic damage exists.

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Program—Northeast Mississippi 13 Counties Medical Society

Dr. W. H. Anderson,
Booneville, Miss.

Dear Dr. Anderson:

Our program for our 13 County runs about like this: Dr. Morris, of Macon will have a paper on Empyema, Dr. Lilly of Tupelo will have a paper on Transfusions, Dr. Davis of Corinth will have an interesting case of the elbow. Dr. J. B. McElroy of Memphis will be our visiting essayist and Dr. McGahey of Calhoun City, will have a paper on Toxemia of Pregnancy.

There will be entertainment with a banquet given by the Houston Doctors following the scientific program.

Dr. G. H. Boyles pastor of First Methodist church will render the invocation.

Very sincerely,

A. J. STACY, Secretary.

Deaths of Mississippi Physicians

Dr. Willis Cabe Weathersby, Coahoma, February.

Dr. William Daniel Potter, Clinton, May.

Dr. W. W. McRae, Corinth, May.

Dr. C. G. McEachern, Moss Point, April.

Dr. W. C. Spencer, Verona, May.

Dr. J. W. Price, Booneville, March.

Dr. James Henry Slaughter, formerly of Greenwood, Miss., died at Kilgore, Texas.

The profit in the practice of medicine in the future will have to come in the main on volume of business rather than such a long price to the individual.

D. W. Jones, of Jackson, and J. W. D. Dicks, of Natchez, are the associate editors of the Mississippi State Medical Association. They will do their part exceedingly well.

Better be on the look out for the chain store medical journal. It will come in the name of service, but its God will be money.

Affiliation, What It Means to the School, the Student, and the Future Graduate Nurse*

SISTER CELESTINE,

Director of School of Nursing, Hotel Dieu
New Orleans, La.

DEFINITION

In considering "Affiliation, What it Means to the School, the Student, and the Future Graduate Nurse," let us first decide what "affiliation" means in nursing terms. Susan Francis had defined it as "the association of one hospital or school of nursing with another for the purpose of complementing the education of the student nurse." Now, the word "complement" implies two things which mutually complete each other and together constitute a whole.

As we progress in this discussion, we hope to bring out the dual nature of affiliation, that is, the reciprocal assistance rendered by the home school and the receiving school, resulting in the complemented or complete education of the student nurse.

TYPES OF AFFILIATION

Let us consider the three types of affiliation needed and offered. First, there is affiliation for the school which lacks a major service. Secondly, there is affiliation for the school possessing limited or inadequate facilities in the major service. And thirdly, there is affiliation for the school which offers its students elective in addition to full time in the main services, and seeks broader experiences for specially interested students.

POLICIES GOVERNING AFFILIATION

Having decided the need for any type of affiliation, the school contemplating affiliation must now study the available centers with regard to their professional standing, the theoretical and practical work given, the living conditions and health supervision offered. After selection of and acceptance by the affiliation center, the term of contract must be agreed on—this contract to be a formal, written one, signed by both schools. It will include such stipulations as the number of students, entrance date, length of affiliation, requirements as to previous general education, theory and practice, immunization, transportation, health certificate and health protection, theory and practice offered, records and reports kept and given to home school, condition causing elimination of affiliating students, and terms of abrogation of contract by either school.

TRIPLE VIEW OF AFFILIATION

The three types of affiliation described offer many

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Internal Medicine and Allergic Diseases

advantages; but, as life goes, we do not have advantages without difficulties. We shall consider these advantages and difficulties from a triple standpoint: that of the student going for affiliation; that of the hospital sending the affiliate; and that of the hospital receiving the affiliate.

STUDENT'S ADVANTAGES AND DIFFICULTIES

Primarily, there is the occasional student who fails to recognize the value of affiliation, who fails to see what it will give her, and who fails to appreciate what it will mean to her as a graduate. Then, there are some students who have much difficulty in adapting themselves to the new environment. As we consider what affiliation will give the student, we realize that the biggest advantage she receives from this arrangement is the development of her professional spirit and the enlargement of her vision as to the possibilities of her profession. She enjoys stimulating associations and has opportunity for comparative study of the two schools. In addition, her life in the new school frequently results in the establishment of desirable and lasting friendships.

OBSTACLES TO BE SURMOUNTED BY HOSPITAL SENDING AFFILIATES

Naturally, the hospital sending its students for affiliation faces some difficulties—some dark clouds. The darkest of these is the problem of supplying nursing care to its sick without increasing the student intake. Apparently, the solution is simple—just employ graduates on general duty. It is true that the hospital must stretch its purse to some extent. But, even with the utmost good will and co-operation on the part of the hospital's finance committee, there is a limit to which the hospital's purse can be stretched, and only too frequently this limit is reached before the student nurse reduction, due to affiliation has been fully compensated by graduate nursing. However, all life is a series of compromises. So, the school having its students' welfare at heart, rests content with a middle ground relinquishing, though reluctantly, the full measure of affiliation envisioned as ideal.

In accepting students, the director, with a view to affiliation, must have in mind the requirements of the receiving school as to educational background. Notwithstanding that she may be busy about many things, she must carefully plan courses of lectures around the schedule of prospective affiliates so that they may not miss out on any theory during their absence. Nor must she fail to have always a clear perception of the basic theory and practice that must precede each affiliate's entrance to the receiving school. Those of us who are familiar with rotation of students readily see how constantly alert the director must be to foresee all these points. Again, there are such problems as the obligation to send the agreed quota of affiliates at the set date, regardless of such home conflicts as unexpected increase in occupied hospital beds, minor epidemics among the students, and even at the appointed time, illness on the part of the affiliate herself.

It goes without saying, that the director must have her eyes, too, on the physical condition of the prospective affiliate as the date for affiliation approaches, so as to eliminate undue fatigue and strain, thus ensuring the student having all possible aids for a successful adjustment to the working condition. One

very practical way to help this situation is the scheduling of the affiliate's vacation to immediately precede her entrance to the receiving school.

Having landed the student safely in the affiliating school, let us not imagine that the director's responsibility is ended. It is her duty, as an educator, to keep in touch with the student's progress in her new surroundings. In the multiplicity of obligations on the part of the director are further included such things as seeing that a transcript of the student's report precedes her entrance to the affiliating school, and that her affiliation reports are incorporated in her regular school report.

ADVANTAGES OF THE SCHOOL SENDING THE AFFILIATE

Is this of affiliation all difficulties and dark clouds? By no means! There is the proverbial silver lining! Let us dwell on advantages and benefits of affiliation. Every nursing educator feels that the effort affiliation involves is decidedly worth-while when she considers the well-rounded course she is able to give her students—when she views with satisfaction the improved standards of the nursing school—when she realizes that she is making a definite contribution to effective nursing of the sick—and when she appreciates that, she is adding her bit to the advance of nursing education. Then indeed is she recompensed with the sense of fulfillment of duty—with the sense of living up to the ideals and principles of the conscientious educator.

Of course, you understand that reference to the director and the satisfaction she experiences implies the satisfaction which is felt by the hospital board of managers that has, through its sanction and co-operation, made possible the good work. More and more do our hospital boards recognize their responsibility in this regard; they see that in thus rendering justice to the student nurse by giving her a well-rounded course, they are inevitably improving the nursing of the sick confined to their care.

DIFFICULTIES OF THE RECEIVING SCHOOL

The receiving school faces the very serious problem of supplying adequate supervision to insure uniformity of technique and reliability of affiliation performance. The receiving school is responsible for initiating and maintaining proper relations between the regular students and the affiliates. It must handle the sickness situation; students who have adapted themselves to strenuous work under a given set of circumstances, frequently have unexpected physical reactions when transferred to different working conditions. There is often the problem of the affiliate who regardless of the formality of physical examination preceding affiliation, begins, shortly after her entrance, a record of frequent small indispositions, making many adjustments necessary. Then, too, the director of the receiving school must deal with the student who averaged fairly well in theory and prac

J. A. HUGHES, M.D., F.A.C.S.

Eye, Ear, Nose and Throat

Suite 1805-6 Sterick Bldg.

Memphis, Tennessee

tice in her home school but who, in a larger school and more confusing environment proves inefficient or ranks in that puzzling borderline of students who are not really incapable and yet are not truly efficient. Not the simplest of the receiving school's difficulties is the planning of its regular student's theory and practice so as not to conflict with the theory and practice pledged to the affiliate.

ADVANTAGES OF THE RECEIVING SCHOOL

Despite these numerous adjustments which the receiving school director must supervise and provide for, she comes out victorious in that she has achieved the necessary nursing care of the patient confided to her; she has procured for her students valuable interchange of ideas and enlargement of professional outlook by the reception of suitable affiliates; she has spurred her regular students to improved performance by the stimulating presence of the affiliating students; she has the satisfaction of knowing that she is accomplishing definite educational work for her profession—raising the standards of large numbers of its members; and last, but best of all for the true nurse, she knows that she has contributed to the better nursing care of the sick—and this over a wide area.

AFFILIATION IN PSYCHIATRIC NURSING

In speaking of affiliation, we have put but little stress so far, on affiliation for electives. All over the country, the mental hygiene movement is steadily gaining momentum. Therefore, it seems to me that the outstanding affiliation elective at present is that in psychiatric hospitals. This will elevate the level of nursing given mental patients, now cared for chiefly by attendants. It gives the student insight into the working of the mind; it gives her tolerance and keenness of observation. Most important, it gives her appreciation of mental illness as the cumulative effect of repeated unhealthy reactions of the individual to the demands of his environment. All this prepares the nurse to teach mental hygiene.

AFFILIATION WITH PUBLIC HEALTH ORGANIZATION

We have been talking of affiliation strictly in terms of hospital—hospital. Viewing nursing in the light of the increasing emphasis on its teaching preventive, and social, aspects, there is another affiliation essential to student nurses' education. Needless to say, we have reference to affiliation with public health organizations. These organizations cover the services found inadequate or actually non-existent in many hospitals—pediatrics, communicable diseases, and obstetrics. Public affiliation offers, under supervision, knowledge of childhood and opportunity to adapt nursing to home conditions; it offers definitely a view of the patient in relation to his family and community; a comprehension of social problems and how they affect the patient; a knowledge of the health and social resources of the community.

The advantages to the public health organization from affiliation are practically identical with those which the receiving hospital obtains from its affiliates.

It was our aim, in this discussion of "Affiliation, What it Means to the School, the Student, and the Future Graduate Nurse," to demonstrate the complementary nature of affiliation—that is, the reciprocal assistance rendered and received by all parties to

the affiliation.

Do we all agree? Affiliation brings undoubted advantages to the school sending the affiliate, to the hospital or organization receiving the affiliate, and to the student going on affiliation; consequently affiliation brings marked advantage to the future graduate nurse.

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Tuberculosis Abstracts

Only about one out of each six cases admitted to tuberculosis sanatoria is an incipient case. Years of public education and of urging people to consult the doctor at the first appearance of symptoms have not succeeded in materially increasing the ratio of early cases to moderately and far advanced cases. One reason why both the specialist and the general practitioner seldom see tuberculosis in its incipency is probably because the disease often begins as an acute subapical lesion. Such lesions develop rapidly into far advanced disease before they are recognized. The authors of a paper on this subject published six years ago, have accumulated additional data and these substantiate their original views.

SUBAPICAL TUBERCULOSIS

In earlier communications attention was called to subapical tuberculosis based on a study of 200 cases. Now that the series has been brought up to 1,000 cases the conclusion that progressive and destructive pulmonary tuberculosis usually begins suddenly with exudative subapical lesions seems justified. While later statistical material shows some change over that of the 200 original cases, the conclusions drawn from the original report are restated with additional support.

The older concept of pulmonary tuberculosis is that it usually begins quite incipiently with a small lesion in the apex of the lung and spreads caudalward, and that the symptoms and physical findings are so elusive as to escape all but the keenest diagnostician. The majority of patients present themselves first with far advanced disease; incipency, as seen in the apical lesion is seldom found. The

JOHN W. RAGSDALE, M.D.
CHESTER D. ALLEN, M.D.
327 Medical Arts Bldg.
Memphis, Tenn.

Urology and Urological Surgery

authors believe the acute subapical lesion is the more frequent as the truly incipient lesion and that such lesions often develop into far advanced disease before they are recognized for the reason that they increase rapidly in extent.

The study is not to be construed as an attempt to classify pulmonary tuberculosis into confusing sub-

groups, but rather as a means of throwing light on the diagnosis, treatment and prognosis through a proper appreciation of the history of onset and course, and the location and nature of the disease.

The picture of the case with a typical subapical lesion, with its acute manifestations, as against the one with apical involvements, is as follows:

	SUBAPICAL	APICAL
Onset:		
1. Clinically	Sudden	Insidious
2. Anatomically	Acute bronchopneumonic infiltration	Discrete, productive tubercles
3. Localization	Subapical	Apical
Course:		
1. Clinically	In acute exacerbations	Slow progression or long period of standstill
2. Anatomically	Rapidly progressive or retrogressive changes interrupting chronic course	Very slow changes
3. Direction of progression	Toward apices and caudalward	Apicocaudal
4. Extent of lesion	Large extent already in "incipient stage"	Incipient stage identical with minimal stage
5. Cavitation	Early occurrence and frequent	Late occurrence and relatively infrequent
6. Duration	Relatively short	Very long
7. Healing	Absorption and/or massive fibrosis	Localized fibrotic scars

SUMMARY

1. Progressive and destructive pulmonary tuberculosis usually begins suddenly with exudative subapical lesions.

2. Lesions, far advanced, and excavations frequently develop within less than six months.

3. Processes leading to active progression and to excavation are most frequently associated with acute symptoms.

4. Physical signs and symptomatology (traditionally described as characteristic for "incipient tuberculosis") are misleading for the detection of truly incipient subapical acute processes.

Acute Subapical Versus Insidious Apical Tuberculosis, Douglas, Nalbant and Pinner, *Am. Rev. of Tuber.*, Feb., 1935.

Most articles on pregnancy and tuberculosis present a pessimistic outlook. A study of the cases at Sea View Hospital, New York at first gave a similar point of view but on careful investigation is appeared that pregnancy had very little effect on the course of the disease and that the character of the pulmonary form of tuberculosis determined the destiny of the patient.

PREGNANCY AND TUBERCULOSIS

The records of 85 patients who had tuberculosis and who were delivered at Sea View Hospital during the past ten years were studied. The average duration of stay before confinement was 2.1 months; and the average after delivery was 3 months. Of the 85 cases, 36 per cent died, 18 per cent were unimproved or progressed and 46 per cent improved. This corresponds with statistics of other writers. But when these figures were compared with a control group of non-pregnant females with pulmonary tuberculosis it appeared that the pregnant woman stands as good a chance as her non-pregnant sister, if not a better one.

The cases were divided into groups, classified

according to the character of the pulmonary pathological processes. This qualitative classification divides pulmonary tuberculosis into two main groups: Exudative and Productive.

Exudative reactions are characterized by high tissue sensitivity and are immediate and explosive. The greater the mass or dosage of tubercle bacilli the more likely the opportunity for over irritation and resultant cell death. The exudative type is subdivided into the Benign Exudative, the Exudative-productive and the Caseous-pneumonic. The Productive form results when tissue sensitivity is low and dosage of bacilli is small. The reaction is cellular with a tendency toward fibroid tissue formation.

In the regrouping of the 85 pregnancy-tuberculosis cases, 51 cases were classified as caseous-pneumonic, 9 as resolving-exudative and 25 as productive. There were 31 deaths and all were in the caseous-pneumonic group. The prognosis of caseous-pneumonic tuberculosis is bad; the majority of cases end fatally.

To determine whether the high toll in the group classified as caseous-pneumonic was due to the complication of pregnancy or to the disease itself a comparison was made with 51 non-pregnant females having caseous-pneumonic tuberculosis. In the pregnancy group, 41 cases (80.37 per cent) died or progressed and 10 (19.6 per cent) improved. In the non-pregnant group 48 cases (94 per cent) died or progressed and 7 (6 per cent) improved.

In summary the study revealed "that the bad prognosis did not depend on the pregnancy but on the character of the pulmonary tuberculosis. All our

SAMUEL BROOKS CARUTHERS, M.D.
Grenada Clinic, Grenada, Miss.
Practice limited to
Eye, Ear, Nose and Throat
Including Bronchoscopy, Esophagoscopy
and Gastroscopy

deaths in the pregnant group at Sea View Hospital were in the caseous-pneumonic group. On the other hand, in the resolving exudative and chronic productive groups in which the prognosis is better and usually good, there were no deaths. In 34 such cases there were no deaths in the hospital and most all of them were discharged as improved. Pregnancy had only a minor effect on the prognosis of the disease in the caseous-pneumonic group, for which it shortened the usual span of life compared with non-pregnant group. In the other two groups there were no deleterious effects of pregnancy on the disease."

The Influence of Pregnancy on Pulmonary Tuberculosis, Ornstein and Kovnat, Am. Rev. of Tuber., Feb., 1935.

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Washington, D. C.—June 18th, 19th, 20th, 1935

ORDER OF EXERCISES

Tuesday, June 18, 1935

9:30 a. m.

Registration of each person (member, guest or visitor) at the desk of the Secretary.

10:30 a. m.

Meeting called to order by Surgeon W. W. Harper, Selma, Alabama, Chairman of the Program Committee.

Report of Committee on Arrangements.

Report of Secretary and Treasurer.

Report of Committee on New Members.

Report of Executive Committee.

Report of Committee on Necrology.

TUESDAY MORNING SESSION—PROGRAM

President's Address, Dr. A. P. McElroy, Union, S. C.

Address: Mr. S. R. Prince, General Counsel Southern Railway System, Washington, D. C.

Address: Hon. Sam Hobbs, Selma, Ala., Congressman from Alabama.

TUESDAY AFTERNOON SESSION

2:00 p. m.

SYMPOSIUM ON FRACTURES

1. "Fractures of the Skull"—Doctor Chas. O. Bates, Greenville, S. C.

2. "Fractures of the Upper Extremity"—Doctor Muir Bradburn, New Orleans, La.

3. "Fractures of the Femur"—Doctor W. R. Rogers, Bristol, Tenn.

4. "Fractures of the Hip"—Doctor G. W. Leadbetter, Washington, D. C.

5. "Fractures of the Hand and Foot"—Doctor A. R. Shands, Jr., Durham, N. C.

6. "Fracture Complications"—Doctor J. F. Mitchell, Washington, D. C.

WEDNESDAY MORNING

9:00 a. m.

DRY CLINIC—Emergency Hospital

Dr. A. R. Shands, Washington, D. C.; Dr. J. F. Mitchell, Washington, D. C.; Dr. H. A. Fowler, Washington, D. C.; Dr. G. W. Leadbetter, Washington, D. C.

Questions and Answers. Round Table Discussion.

WEDNESDAY AFTERNOON SESSION

2:00 p. m.

1. "Diagnosis and Treatment of Infected Tonsils"—Doctor W. H. Anderson, Booneville, Miss.

2. "Some Hints as to Treatment of Injured Eye"—Doctor L. S. Greene, Washington, D. C.

3. "Office Treatment of Minor Injuries"—Doctor S. R. Miller, Knoxville, Tenn.

4. "Gumma of the Fibula"—Doctor Thos. H. Hancock, Atlanta, Ga.

5. "An Unusual Case"—Doctor Henry F. Long, Statesville, N. C.

THURSDAY MORNING SESSION

9:00 a. m.

Unfinished Business.

Election of Officers.

The remainder of the day will be given to entertainment.

A trip by bus to Mount Vernon over the new Memorial Highway, returning by boat, is planned for all those attending the convention.

LADIES' AUXILIARY

President, Mrs. Willard Steele, Chattanooga, Tenn.

There will be a meeting of the Auxiliary on Wednesday, June 19, 1935, at 10:30 a. m.

Important announcements will be made. All members and applicants for membership should attend.

Following the meeting there will be a luncheon for the ladies at the Willard Hotel.

HEADQUARTERS—Willard Hotel.

OFFICERS

Surgeon A. P. McElroy, President Union, S. C.

Surgeon Willard Steele, First Vice President, Chattanooga, Tenn.

Surgeon Earle Grady, Second Vice President, Tryon, N. C.

Surgeon J. W. McConnell, Third Vice President, Davidson, N. C.

Surgeon W. H. Anderson, Fourth Vice President, Booneville, Miss.

Surgeon W. W. Harper, Recording Secretary, Selma, Ala.

Secretary and Treasurer, Miss Edith A. Foltz, Washington, D. C.

EXECUTIVE COMMITTEE

Surgeon W. S. Nash, Knoxville, Tenn.

Surgeon T. H. Hancock, Atlanta, Ga.

Surgeon E. Dunbar Newell, Chattanooga, Tenn.

Surgeon J. F. Abel, Waynesville, N. C.

Surgeon R. H. Fuller, South Boston, Va.

It is now time to begin to think about the next meeting of the Mid-South Post Graduate Medical Assembly.

ROBIN HARRIS

Eye, Ear, Nose and Throat
and Bronchoscopy

Lamar Life Building
Jackson, Mississippi

President-Elect Arkansas Medical Society



GEORGE B. FLETCHER

George B. Fletcher, M.D., F.A.C.P., born at Lonoke, Arkansas April 7, 1888.

Graduated University of Arkansas Medical School 1912.

Staff Physician State Hospital for Nervous and Mental Diseases, 1912-1913.

Clinical Clerkship 1914 under E. Farquhar Buzzard and Gordon Holmes at the National Hospital for Paralyzed and Epileptics, Queens Square, London England, and under tutorship of Sir James Purves Stewart at the same time.

1917-1921 Officers Medical Corps Regular Army and was eleven months with the American Expeditionary Forces as Surgeon of the Third Battalion 60th U. S. Infantry Fifth Division.

Since 1921 has practiced in Hot Springs National Park. His specialty is neurology.

Has served as Councilman of the Seventh District, and President of the Garland County-Hot Springs Medical Society.

Elected President of the Arkansas Medical Society at the annual meeting at Fort Smith, Arkansas, April 17, 1935.

Officers of Alabama State Medical Association

The newly elected officers of the Alabama State Medical Association are:

President, Dr. C. A. Thigpen, Montgomery.

Vice President, Southeast Division, Dr. C. P. Hayes, Elba.

State Health Officer, 5 years, Dr. J. N. Baker, Montgomery.

Censors: Dr. M. Y. Dabney, Birmingham; Dr. Brannan Hubbard, Montgomery to fill unexpired terms and Dr. S. A. Gordon, Mobile and Dr. E. V. Caldwell, Huntsville, re-elected.

Dr. Douglas L. Cannon continues as Secretary.

Present Status of Mead Johnson Vitamin A Research Award

This award was originally established by Mead Johnson & Company January 30, 1932. "Mead Johnson & Company announces an award of \$15,000 to be given to the investigator or group of investigators producing the most conclusive research on the vitamin A requirements of human beings." (See J. A. M. A., January 30, 1932, pages 14-15.)

On February 11, 1933 (J. A. M. A., pages 12-13), "At the suggestion of the Judges, a second (additional) Award of \$5,000 is now offered. The basis for this enlargement is in the obvious possibility that within the time limit set (Dec. 31, 1934), no suitable evaluation of the vitamin A requirements of human beings will have appeared. On the other hand, a laboratory investigation may have been published which will point the way toward clinical evaluation."

On that date, the Judges for the award were announced:

Isaac A. Abt, Northwestern University; K. D. Blackfan, Harvard University; Alan Brown, University of Toronto; Horton R. Gasparis, Vanderbilt University; H. F. Helmholtz, Mayo Clinic; Alfred F. Hess, Columbia University; E. V. McCollum, Johns Hopkins University; L. B. Mendel, Yale University; L. T. Royster, University of Virginia; and Robert A. Strong, Tulane University.

The Judges met in Detroit, April 10, 1935, and took the following action:

(1) To postpone until December 31, 1936, awarding of main (Clinical) Award.

(2) To divide the second (Laboratory) Award, one-half to Dr. S. B. Wolbach, Harvard University, for his basic work on the pathology of avitaminosis A and his investigations on the regeneration of epithelial tissue impaired by vitamin A deficiency, and the relationship of vitamin A to the integrity of the teeth; and one-half to Dr. Karl E. Mason, Vanderbilt University, for distinguishing exactly between the pathology of avitaminosis A and avitaminosis E, and for his contribution to the quantitative relationship of vitamin A deficiency to the keratinization of germinal epithelia.

Some of this original work is still in press.

Checks for \$2,500 each, in accordance with the decision of the Judges, were promptly mailed by Mead Johnson & Company to Dr. S. B. Wolbach and to Dr. Karl E. Mason.

When the machine age came in the whiskey age went out.

We should stand together in organized medicine in solving our medical problems.

Vocal anesthesia was the first we had in this country and it still has a place in every type.

DR. Wm. F. HAND

Gynecology and General Surgery

519-21 Standard Life Bldg.

Jackson, Miss.

Wreck Injury Fatal to Dr. W. W. McRae



Dr. William Wallace McRae, prominent physician and surgeon, died at about 6 o'clock Sunday afternoon at McRae Hospital from a head injury sustained in an automobile accident on the Selmer road, nine days after his automobile collided with another car about ten miles north of Corinth.

His death brought grief to large numbers of people to whom Dr. McRae had administered during the long period of his service in this vicinity. He was one of the two eldest doctors in Corinth, both in age and in point of service. Seventy years of age at the time of his death, he had been continuously active as a physician and surgeon in Corinth since 1900.

Dr. McRae was born in 1865 at Mingo, which at that time was a postoffice site, between the present communities of Tishomingo and Dennis. He met and married his present wife, Alice McConnell McRae, at Trenton, Tenn., the marriage taking place in 1893. Dr. McRae was practicing medicine prior to his marriage, but during the year following received his first formal schooling at the Memphis Medical College, now the University of Tennessee.

His first hospital was founded in 1902, when with Dr. Charles M. Taylor, and Dr. W. A. Johns, the Corinth Sanitarium was started. This, the first hospital in this entire section, occupied the building now occupied by the ACE Power Association.

In 1905 Dr. McRae opened his own hospital where the Commercial House is now located and in 1919 established his hospital and clinic in the Williams' Building. The hospital was later destroyed by fire, and Dr. McRae built his hospital at the present location.

For years Dr. McRae was district surgeon for the Illinois Central railway.

He was a member of the American College of Physiotherapy and other medical organizations.

He was also for year active in Masonic work, and was a member of the Shrine and Scottish Rite.

Surviving him in the immediate family are his wife, and two children, Dr. M. H. McRae, Corinth, and Mrs. O. R. Brown, of Lexington, Tenn.—Daily Corinthian, May 6, 1935.

The man who milks a cow dry the first week is no good as an anesthetist—doesn't have the sympathy, can't get the confidence of the patient.

A yearly examination is of the greatest importance, but the profession could not do so many of them in one year.

The Mississippi State Hospital Association

LEON S. LIPPINCOTT, M.D., Editor—Vicksburg
KATE LOU LORD, R.N., Associate Editor—Hattiesburg

The sixth annual session of the Mississippi State Hospital Association was held at Biloxi, May 13th. The program included a business session in the Pavilion of the Buena Vista Hotel in the forenoon, a joint meeting with the Louisiana Hospital Association in the Pavilion in the afternoon and a joint banquet with the Louisiana Hospital Association in the evening. The Louisiana Hospital Association held a business session in the forenoon in the grill room of the Buena Vista Hotel.

Registration showed twenty-seven hospital people from Louisiana, fifty-one representing thirty-five member Mississippi hospitals, five personal active members of the Mississippi State Hospital Association and fifty-four guests.

MISSISSIPPI STATE HOSPITAL ASSOCIATION

FORENOON

V. B. PHILPOT, M.D., President, presiding

Called to order at 9 a. m.

Invocation, Rev. Archie Smith, Biloxi.

Roll Call.

The minutes of the last meeting having been published and distributed to the members, on motion, duly seconded, the reading of the minutes was dispensed with and the minutes were approved.

President's Address, Dr. V. B. Philpot.

Report of Board of Directors, Dr. H. A. Gamble, Greenville, Vice-President.

Report of Secretary, Dr. Leon S. Lippincott, Vicksburg.

Report of Treasurer, Dr. Leon S. Lippincott, Vicksburg. Referred to auditing committee.

Committees were appointed as follows:

Nominating Committee: Drs. J. Gould Gardner, Columbia; J. R. Hill, Corinth; W. H. Sutherland, Booneville.

Auditing Committee: Drs. J. Rice Williams, Houston; J. M. Acker, Jr., Whitfield; H. Lowry Rush, Meridian.

Resolutions Committee: Drs. G. Lamar Arrington, Meridian; K. T. Klein, Meridian; A. Street, Vicksburg.

Distinguished guests were introduced as follows: Miss Mary H. Trigg, R.N., representing the Mississippi State Nurses Association; Dr. E. C. Parker, Gulfport, President, Mississippi State Medical Association.

Reports of Committees:

Community Hospitals, Dr. J. R. Hill, Corinth, Chairman. Discussed by Dr. W. H. Sutherland, Booneville; Mrs. J. Oridge, R.N., Lexington; Dr. A. Street, Vicksburg; Dr. V. B. Martin, Picayune; Dr. G. Lamar Arrington, Meridian; Dr. J. W. Moody, Charleston;

WALTER A. RUCH, M.D.

Practice Limited to Obstetrics

Suite 202 Physicians and Surgeons Bldg.

899 Madison

Memphis, Tenn.

Dr. George E. Adkins, Jackson; Dr. F. W. Long, Starkville; Dr. M. D. Ratcliff, McComb; Dr. H. A. Gamble, Greenville; Dr. T. W. Emerson, Hernando; Dr. V. B. Philpot, Houston.

Legislation—Dr. J. Gould Gardner, Columbia, Chairman. Discussed by Drs. J. W. Moody, Charleston; V. B. Martin, Picayune; Bert W. Caldwell, Chicago; C. A. Sheely, Gulfport.

Charity Hospitals—Dr. G. Lamar Arrington, Meridian, Chairman. Discussed by Drs. L. W. Brock, McComb; K. T. Klein, Meridian; J. Gould Gardner, Columbia; Henry Boswell, Sanatorium; C. A. Sheely, Gulfport; V. B. Philpot, Houston.

Insane Hospitals—Dr. J. M. Acker, Jr., Whitfield, Chairman. Discussed by Drs. Beverley Smith, Meridian; C. D. Mitchell, Jackson; Leon S. Lippincott, Vicksburg; O. A. Schmid, Memphis; J. Gould Gardner, Columbia.

Membership—Report prepared by Dr. E. LeRoy Wilkins, Clarksdale, Chairman; read by Miss Mary Trigg, R.N., Greenwood.

Public Relations—Dr. V. B. Martin, Picayune, Chairman. Discussed by E. C. Parker, Gulfport.

Minimum Standards—Report prepared by Dr. W. Jeff Anderson, Meridian, Chairman; read by the secretary. Discussed by Dr. L. B. Morris, Meridian; Dr. Leon S. Lippincott, Vicksburg; Dr. H. A. Gamble, Greenville; Dr. V. B. Philpot, Houston.

Nurses and Nursing—Dr. A. Street, Vicksburg, Chairman. Discussed by W. H. Martin, Greenville; Miss Sue Collins, R.N., Biloxi, Miss Mary H. Trigg, R.N., Greenwood.

Publicity—Dr. Leon S. Lippincott, Vicksburg, Chairman. Dr. J. Gould Gardner, Columbia presented the following resolutions:

That the Secretary of our Association be instructed to investigate the problems of a central purchasing agency with a possibility of buying staple articles for the hospitals of this association, presenting full data of the cost saving and the method of purchase, and also that the Board of Directors be given the power to act for this association. Adopted.

Dr. J. Gould Gardner, Columbia, presented the following resolution:

That our in-coming president of the Mississippi State Hospital Association, Dr. H. A. Gamble, transmit to our senators and congressmen in writing the great need of FERA funds for the care of indigent cases in our hospitals and to explain to them that there are no adequate appropriations available for the care of indigent patients in our hospitals and counties. Adopted.

The secretary presented the following resolution:

That the Mississippi State Hospital Association in annual meeting assembled hereby instruct its secretary to keep an accurate and up-to-date file of records of activities of all member hospitals and to this end requests its members to furnish information, including copies of staff rules and regulations, promptly on request. Adopted.

The secretary presented the following resolution:

That this Association requests the in-coming president to appoint a special committee to carefully study taxation of hospitals in this state as compared with other states and to make a report and recommendations for possible legislation to the Board of Directors not later than September 1, 1935. Adopted.

The secretary presented the following resolution:

That this Association request the President to appoint a committee to make a study of hospital staff rules and regulations and to draw up standard model staff rules and regulation for presentation to this association at its next meeting. Adopted.

The secretary presented the following resolution:

That this association requests the committee on Nurses and Nursing to make a study and compile a record of requirements for registration of nurses in other states and to make recommendations looking to making it possible for nurses registered in Mississippi to secure reciprocity in other states. Adopted.

The nominating committee presented the following nominations for offices for the year of 1935-1936:

For President, Dr. H. A. Gamble, Greenville.

For Vice-President, Dr. A. M. McCarthy, Electric Mills.

For Secretary and Treasurer, Dr. Leon S. Lippincott, M.D., Vicksburg.

For Board of Directors, Drs. H. A. Gamble, A. M. McCarthy, Leon S. Lippincott, J. M. Acker, Jr., Whitfield, W. W. Crawford, Hattiesburg.

They were unanimously elected.

The auditing committee reported that it had carefully examined the report of the treasurer and found it correct with proper vouchers. The report was adopted.

The Committee on Resolutions presented the following:

Whereas the Mississippi State Hospital Association, together with the Hospital Association of our sister state of Louisiana, whose problems are identical with ours, in annual session assembled, did enjoy the fellowship, co-operation, the privileges and the benefits of meeting in conjunction with the Mississippi State Medical Association and

WHEREAS we have a number of especially distinguished guests whose presence and advice have contributed notably to the success of our meeting, and

WHEREAS it is the belief of this association that such meetings are mutually valuable in solving many problems which especially in Mississippi are common to hospitals and the practice of medicine,

BE IT THEREFORE RESOLVED that the Mississippi State Hospital Association does hereby extend to the Mississippi State Medical Association its thanks and appreciation for the courtesies of this valuable contact and pledge to the Mississippi State Medical Association its continued loyalty and best efforts to improve the hospitals of the state, always keeping in mind the best interest of patient, doctor and nurse.

The resolutions were adopted and the committee was instructed to present a copy to the Mississippi State Medical Association.

Telegram was read from the Arkansas State Hospital Association.

The president presented Dr. H. A. Gamble, Greenville, the incoming president and Dr. A. M. McCarthy,

Compliments of

DR. JOHN P. HENRY

Suite 2005-6-7 Sterick Building

Memphis, Tenn.

Electric Mills, the incoming Vice-President.

JOINT MEETING OF THE MISSISSIPPI STATE HOSPITAL ASSOCIATION AND THE LOUISIANA HOSPITAL ASSOCIATION

AFTERNOON

Dr. Louis J. Bristow, New Orleans, Vice-President, Louisiana Hospital Association, presiding.

Address of presiding officer.

Some of the Every Day Problems of a General Hospital, C. L. Sibley, Birmingham, Alabama.

The Value of Medical Records, Miss Helen Robinson, Little Rock, Arkansas.

Choosing Students for Schools of Nursing, Miss Mabel Pittman, R.N., Vicksburg.

Concluding Remarks of the presiding officer.

JOINT BANQUET OF THE LOUISIANA HOSPITAL ASSOCIATION AND THE MISSISSIPPI STATE HOSPITAL ASSOCIATION

EVENING

Dr. V. B. Philpot, Houston, President, Mississippi State Hospital Association, presiding.

SPEAKERS

Dr. Bert W. Caldwell, Executive Secretary, American Hospital Association, Chicago, Illinois.

Dr. Justin F. Kimball, President, Baylor University, Dallas, Texas.

Dr. B. C. MacLean, Superintendent, Touro Infirmary, New Orleans, President, Louisiana Hospital Association.

MEMBERSHIP

A report of the Membership Committee of the Mississippi State Hospital Association shows the following:

Institutional Active members	52
Personal Active Members	10
Personal Associate Members	3
Honorary Members	1

Announcement

Dr. W. H. Anderson,
"The Mississippi Doctor,"

Dear Dr. Anderson:

Will you kindly place the following announcement in your next issue?

Plans for the most interesting program that has as yet been presented by the Charles Steinberg Clinic of the Leo N. Levy Memorial Hospital will be presented at the conference to be held in October. Watch for further information.

Very truly yours,

D. C. LEE, M.D.

Hot Springs, National Park, Ark.

There is a fine opening in our state for a few hundred doctors to give special attention to obstetrics and pediatrics—work fine together.

We may have too many doctors, but we would not have half enough if all the perineal repairs should be done that urgently need it.

Think of the "unseen" lacerated pelvises.

The President-Elect, Dr. Harvey Franklin Garrison, is the first Jackson physician to be given this honor since 1904. He was born near Mayesville, Georgia, July 3, 1879; six years later his father moved with his family to Mississippi. The subject of this sketch received his education in the common schools of the State, and on April 26, 1901 was granted his Medical Degree by the Memphis Hospital Medical College, now the University of Tennessee Medical School.

Dr. Garrison then located at Seminary, Mississippi where he practiced general medicine until 1918. Having volunteered for medical service during the War, he was ordered to Clinton, Mississippi to take charge of medical supervision of the S. A. T. C., located at Mississippi College. After this service, Dr. Garrison began the special study of pediatrics and following post graduate work in New York, he established an office in Jackson for the practice of his specialty, and he now holds a Certificate from the American Board of Pediatrics. He did post graduate work in pediatrics in New Orleans, the New York Polyclinic, and the New York Postgraduate School.

From 1913-1921, Dr. Garrison was a member of the Council of the State Medical Association. He was a member of the Mississippi State Board of Health, and the executive committee of the Board, for eight years following his appointment in 1916.

At the 1915 meeting of the State Medical Association at Hattiesburg, Dr. Garrison, then councillor of the Association, introduced before the House of Delegates a motion, which carried, to the effect that the President appoint a committee to draft plans for the establishment of a state tuberculosis hospital in Mississippi. Those appointed on this committee were Drs. H. F. Garrison, W. S. Leathers, S. W. Glass, J. J. Haralson, and D. J. Williams. This action by the House of Delegates is found on pages 18 and 19 of the Transactions of the Mississippi State Medical Association for 1915. The following year, Dr. Garrison was named a member of the State Board of Health and worked untiringly with that body and with the State Legislature in framing and passing the bill creating and supporting the Mississippi State Tuberculosis Sanatorium. He served on the committee to select the location, and for eight years served as secretary of the Board of Trustees of the Institution.

In 1913, while enroute to and from New York for post graduate study, Dr. Garrison visited the U. S. Public Health Service in Washington where he became acquainted with the work and workers of that organization. Upon his return home, viewing the alarmingly serious pellagaria situation in his and other counties, he was successful through one of our United States Senators in getting a request made to the U. S. Public Health Service for the detail of some man to study the matter. Dr. Joseph Goldberger was ordered to Mississippi by the Surgeon General and reported to Dr. Garrison at Seminary for a discussion of the situation and to gain first-hand information. He

THOMAS D. MOORE, M.D.
UROLOGY and UROLOGIC SURGERY
Suite 102-6
Physicians and Surgeons Building
899 Madison Avenue
Memphis, Tennessee

was taken to see all cases in Covington County. Thus we see that Dr. Garrison was instrumental in beginning the study of pellegra in the orphanages in Jackson and later the famous experiment with the convicts at the State Penitentiary which resulted in the solution of the pellegra problem for humanity.

Dr. Garrison served on the Committee which studied the problem of feeble-mindedness in Mississippi, and in making plans for the establishment of an institution in this State for those thus afflicted, he visited all of the leading institutions for the feeble-minded in the United States. For eight years after the school was established at Ellisville, he served on the Board of Trustees.

In 1933, Dr. Garrison was elected and still serves as Councillor for Mississippi to the Southern Medical Association.

Dr. Garrison has at all times endeavored to serve the best interests of the medical profession.

Get ready to get off to our June meeting in Houston. It will be one of the best we have ever had. Houston knows how to entertain. The scientific program is fine. The visiting essayist, Dr. J. B. McElroy, of Memphis, is always worth going miles to hear. He is the Osler of the Mid-South. We should never fail to set at his feet and listen when we have the opportunity. Honor him with your presence and be benefited. The third Tuesday, June 18th.

Dr. Harvey F. Garrison of Jackson, Miss., is the President-Elect of the Mississippi State Medical Association. This is the highest honor in the gift of the association. It is worthily and well bestowed, we are sure. Dr. Garrison has been active in the association for many years. He has been a friend to organized medicine. He is doing able work in the profession. He is a man of loyalty and gratitude. He has an active mind and the physical energy to execute. We believe he will be a safe, progressive and active leader for the society. The other nominees were two of the finest and most beloved men in the association, hence his responsibility is all the greater. He will meet it and leave his impress on our society.

The Southern Railway Surgeons will hold their annual session in Washington, D. C., June 18-20 inclusive.

In this issue you find the first installment of the "Soul of the Surgeon" by Dr. Matas. It will do your soul good to read it.

Service can not be destroyed, not any more than matter.

Dr. Leon S. Lippincott is the able editor of the Mississippi State Medical Association. He loves work and for it he has great capacity.

We should feel proud of a T. B. hospital that is as good as can be found in the United States. It can at least help to solve the problem.

Dr. W. A. Dearman is the Osler of Internal medicine in Mississippi.

The Mississippi State Medical Association at Biloxi last month was really a good one. There was a vein of cooperative spirit flowing through the meeting. Dr. Parker was a good president. He ran the meeting on schedule time. He was fair and considerate of every one, cordial and friendly. Dr. Dye is one of the most efficient secretaries in the United States. He has everything in fine order always. He is the essence of efficiency. Dr. Wall was on the dot as speaker. He knows the rules and he strives at all times to be perfectly fair. The papers were good. The president's address was very timely. We have a war on all the time in the form of accidental deaths. Dr. Parker's address will bear fruit we believe. Dr. Bryan delivered a masterly address on the cancer problem. President-elect Dr. J. R. Hill delivered a unique address. Dr. Seale Harris is always good. He has rendered much service in organized medicine. He goes to the bottom of the subject and he has a wonderful medical spirit. American Medicine owes him much. Dr. Dearman's tribute to Dr. Goldberger was fine. The presence of Mrs. Goldberger was appreciated. Col. Craig, Drs. Parrish and Thomas read able papers.

The discussion of our medical problems was free, but the spirit was good. The indications are that more doctors are becoming interested in their own business. They are asking the reason why and feel that they have a right to.

Fishing was good on the coast. Big strings were caught actually, others were reported. The catching of fish stimulates the lingual centers like calomel does the liver. The zephyrs on the coast were kind and restful, yet invigorating. The Mississippi Coast is the playground of the Mid-South. It will yet come into its own. We will look forward with pleasure to our return to the coast for another meeting.

We appreciated an invitation to the staff meeting at the Houston Hospital a few nights ago. Drs. Underwood and Ricks of the State Board of Health were there. It was a fine meeting. It does you good like a medicine to go to a staff meeting at Houston. They have brotherly cooperation. They have a fine medical atmosphere. The Houston hospital is one of the best in the state. Don't fail to go when you are invited.

Please notice the card of Mrs. Carns about her pottery shop. This was a very popular place during the state medical convention at Biloxi. You will want some of the nice things she has. You will want many if you see them.

Dr. G. S. Bryan, of Amory, is one of the chiefs of the Dafoes of this state. He has a mind, keen, alive and alert. He meets situations when they come. He is a thinker.

Drs. Dan Williams and W. A. Dearman entertained the ex-presidents at the state meeting in fine style.

The Mississippi State Hospital Association is getting to be a very live organization. Much good work is ahead of it. It has done good already.

The presence and the work of Dr. W. W. McRae, of Corinth, will be greatly missed. He was a citizen of much value to his town. His fellow citizens had faith in his integrity, in his honesty of purpose. He was a safe surgeon. He was conservative. He had good surgical judgment. He was plain and fair with his clientele. They trusted him and it was not misplaced. He kept himself well informed in the field of medicine and surgery. He was orthodox in medical ethics. He studied the problems of medical economics. He was successful in the art of living. He kept physically and mentally fit for three score and ten. We deeply regret his going and offer our sincere sympathy to the ones who will miss him most.

Tuberculosis Abstracts

Pneumothorax treatment, somewhat slowly adopted by the American medical profession, has now established itself as one of the most important weapons in the fight against tuberculosis. For some years there has been felt a need for more precise data so that pneumothorax therapy might be fairly evaluated. A Committee on Artificial Pneumothorax of the American Sanatorium Association, after four years work, completed a survey of pneumothorax in representative American tuberculosis sanatoria covering the period 1915-1930. Such subjects as the methods of collapse, the termination of pneumothorax therapy, the results derived from it and others were investigated through the questionnaire method and statistical analysis. The Committee published its report recently in the American Review of Tuberculosis. It is possible here to offer only brief extracts of the study and the more important conclusions.

RESULTS OF PNEUMOTHORAX

Of fifty sanatoria which volunteered to collaborate, twenty-four furnished data on pneumothorax sufficiently complete and suitable for study and tabulation. The study divided itself into two parts; the first was designed to ascertain in what proportion of patients pneumothorax therapy had been attempted, the proportion of "operative failures" and other related information, while the second part consisted of detailed case records, the total number of which submitted was not so large, probably because of the exacting criteria required.

TERMS DEFINED—To obtain comparable data it was necessary to define a number of terms. **Intentional** termination of pneumothorax was assumed when refills had been allowed to relapse. Termination was considered **unintentional** when oblitative adhesions had encroached on the pleural cavity. The term **pneumothorax treatment** required that there must be a demonstrable pleural sac and the patient must have received at least 100 c.c. of air or gas at regular intervals over a period of at least three months.

Very important, not only for this study but for consideration of pneumothorax in general, was the effort of the Committee to define precisely what is meant by **effective collapse**. Keeping in mind clinical, roentgenographic and laboratory criteria, the Committee decided that the following three conditions should be met, or at least two of them, when the third was doubtful or not stated:

1. Disappearance of symptoms.

2. Disappearance of bacillary sputum.

3. Demonstrable closure of cavities, especially roentgenographically.

STATISTICAL DATA—The incidence of pneumothorax reported by the sanatoria varied from 1 per cent to 34 per cent with an average of approximately 10 per cent. Twice as many females as males received pneumothorax treatment and by far the largest number was between the ages of 20 and 35—an age distribution corresponding to the age-period of greatest frequency of pulmonary tuberculosis.

Approximately 40 per cent of the cases which received pneumothorax treatment, showed considerable cavitation, that is, destruction involving the collapsed or "treated" lung, and 25 per cent moderate cavitation, making a total of about two-thirds having more or less marked pulmonary destruction prior to beginning pneumothorax therapy.

The contralateral lung appears to have been essentially uninvolved in about one-third of the cases studied; slight lesions were recorded in a little over one-third; and moderate ones in a smaller group. Very few cases with contralateral cavitation were recorded.

Effective collapse was obtained or maintained in 38 per cent of the cases. In nearly two-thirds of the series it was necessary to discontinue treatment prematurely, most frequently because of the development of pleural complications. Two factors, small proportion of cases susceptible to effective collapse, and forced and premature discontinuance of collapse, appear to limit most seriously the success of pneumothorax therapy.

GENERAL CONCLUSIONS—Effectiveness of collapse of the diseased areas is the greatest single factor in obtaining successful results, whether immediate or more remote. It seems obvious that valuable time is often lost in continuing over a long period a poor pneumothorax when other and more promising measures are available, or when the patient is obviously deriving no benefit from the procedure.

The data furnished no substantial support for the common impression that patients under twenty years of age respond poorly to collapse therapy. In fact, measured by immediate results and effectiveness of collapse those under thirty-five fare better than those over that age. Wider use of pneumothorax in the group under twenty seems indicated.

The later results, in general, assessed one to fifteen years after termination of pneumothorax treatment, appear distinctly gratifying. Although a considerable number of patients could not be traced, over 70 per cent of those followed were still living and of these three-quarters were able to work. Thus, with due consideration of its very considerable limitations, artificial pneumothorax appears to be undeniably one of our most valuable therapeutic measures in the treatment of pulmonary tuberculosis. We may further add that from this study its discontinuance seems warranted in many cases after a reasonably adequate period of effective treatment, which cannot be too dogmatically predicted.

A Survey of Artificial Pneumothorax in Representative American Tuberculosis Sanatoria, 1915-1930, Peters, Pope, Morris, Packard and Miller, Am. Rev. of Tuber., Jan., 1935.



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Nervous and Mild Mental Disorders and Drug and Liquor Addictions
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Doctor, we wish to call your attention to the merits and claims of the above named Institution, especially for Nervous and Mild Mental Disorders—for Drug and Liquor Addictions and Infirmities of Old Age.

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It is registered by the American Medical Association.
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The staff of physicians of this Institution are all members or Fellows of the American Medical Association and its subordinate societies. They are physicians, who after having graduated in medicine, have had the best of medical training in the large graduate schools of medicine and hospitals of the East and are especially prepared for their respective specialties. These physicians give their entire time to the patients in the sanitarium doing no outside work.

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The latest and best approved methods of therapy are carried out here at all times.

Hydro-therapy, physio-therapy, electro-therapy and drug-therapy are used as indicated.

The New Fenwick Sanitarium is noted for the individual attention given each patient among pleasant and home-like environments.

This Institution prides itself on the character of nourishment and diet furnished the patients, not only at meal time but otherwise.

For forty-three years it has cared for and brought back to health Mental and Nervous patients, many cases being brought to us from other Institutions.

In the last forty-three years, it has studied and treated many Liquor and Drug Addicts.

The buildings of the New Fenwick Sanitarium are new and constructed especially for the class of patients it treats. They are built of pressed brick, steel and concrete, with every comfort, electric fans, steam heat, etc. All rooms are outside rooms with good ventilation and attractively furnished. The grounds are well kept and inviting with flowers, shrubs, shade trees and rest benches.

This Institution is patronized by the better class of people. Its services are offered to the discriminating physicians for the type of patients named above as a high class Institution in every sense and meaning of the word.

It is located in Covington, Louisiana, a section so noted for its health qualities, and is easily accessible by concrete highways, railroads and water routes. It is only one hour and a half by automobile from the center of New Orleans.

THE MISSISSIPPI DOCTOR

OFFICIAL ORGAN

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 13.

BOONEVILLE, MISSISSIPPI, JULY, 1935

NO. 2

THE DOCTOR

Whose hands are soft as satin?
Who's trim from head to toes?
Who loves to spout his Latin
To air how much he knows?

Whose wisdom makes us wonder?
Whose doses give disgust?
Whose errors tuck us under
The daisies and the dust?

Who braves the wildest weather
To answer when we call?
Who wrestles grimly whether
One hope remains at all?

Who calms the quaking mother
That brings a babe to birth?
Who acts when not another
Would dare in all the earth?

Who makes of life a mission
To dull the edge of pain,
Undaunted by condition,
Above the greed of gain?

Who, when his days are ended,
Shall sleep at set of sun,
His life complete, commended
For deeds that he has done?

The DOCTOR—Heaven bless him!
Of him I seek to sing.
May every heart confess him
As comforter and king.

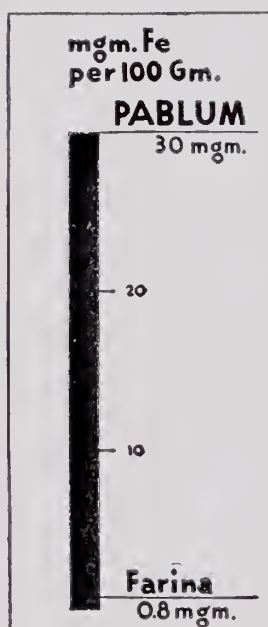
—DAVID E. GUYTON

Blue Mountain, Miss.

Written for "The Mississippi Doctor".

For bland diet therapy, especially ULCER cases — PABLUM

FAR too often the bland diet prescribed for gastric ulcer, colitis, and similar gastro-intestinal disorders is a deficient diet. An analysis made by Troutt of ulcer diets used by 6 leading hospitals in different sections of the country showed them to be "well below the Sherman standard of 15 milligrams" in iron and low in the water-soluble vitamins.¹ "Vitamin B would appear to be represented at a maintenance level in most cases," writes Troutt, "but the possible relation of vitamin B to gastro-intestinal functions and appetite should make one pause before accepting a low standard."



Although Pablum has a low fiber content it is 37 times richer than farina in iron and in calcium, 4 times richer in phosphorus, and $4\frac{1}{2}$ times richer in copper.

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Pablum is the only food rich in a wide variety of the accessory food factors that can be fed over long periods of time without danger of gastro-intestinal irritation. Its fiber content is only 0.9%. Yet Pablum contains 37 times more iron than farina and is an excellent source (+ + +) of vitamins B and G, in which farina is deficient. Supplying $8\frac{1}{2}$ mgms. iron per ounce, Pablum is 8 times richer than spinach in iron. It must be remembered, too, that even when such vegetables as spinach are included in the ulcer diet, their iron content is reduced by sieving. Peterson and Elvehjem found, for instance, that orange juice and tomato juice contain only one-third as much iron as the whole fruit.²

Rich in Vitamin B

The high vitamin B content of Pablum assumes new importance in light of recent laboratory studies showing that avitaminosis B predisposes to certain gastro-intestinal disorders. Apropos of this, Cowgill says, "Gastric ulcer is another disorder which can conceivably be related to vitamin B deficiency. Insofar as the treatment of this condition usually involves a marked restriction of diet the occurrence of at least a moderate shortage of this vitamin is by no means unlikely. Obviously the length of the period of dietary restriction is an important determining factor. Dalldorf and Kellogg (1931) observed in rats subsisting on carefully controlled diets that the incidence of gastric ulcer was greatly increased in vitamin B deficiency. Observations of this type merit serious consideration."³ Sure and Thatcher (1933) produced ulcers in rats, similar to those in human gastric ulcer, as a result of specific vitamin B deficiency.⁴ Clinical observations by Dickson,⁵ Elsom,⁶ Larimore,⁷ and Mackie⁸ lead them to believe that diets low in vitamin B may be conducive to gastro-intestinal disorders, including ulcerative colitis.

Requiring no further cooking, Pablum is especially valuable during the healing stage of ulcer when the patient is back at work but still requires frequent meals. Pablum can be prepared quickly and conveniently at the office or shop simply by adding milk or cream and salt and sugar to taste. Pablum has the added advantage that it can be prepared in many varied ways—in muffins, mush, puddings, junket, etc. Further, Pablum is so thoroughly cooked that its cereal-starch has been shown to be more quickly digested *in vitro* than that of farina, oatmeal, cornmeal, or whole wheat cooked four hours in a double boiler (Ross and Burrill).

Pablum consists of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa, yeast, beef bone, iron salt and sodium chloride.

1-8 Bibliography on request.

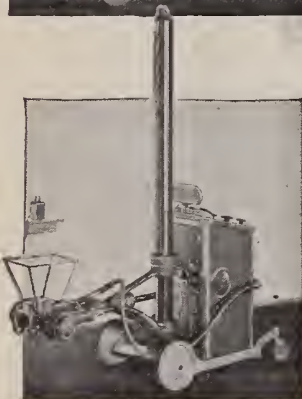
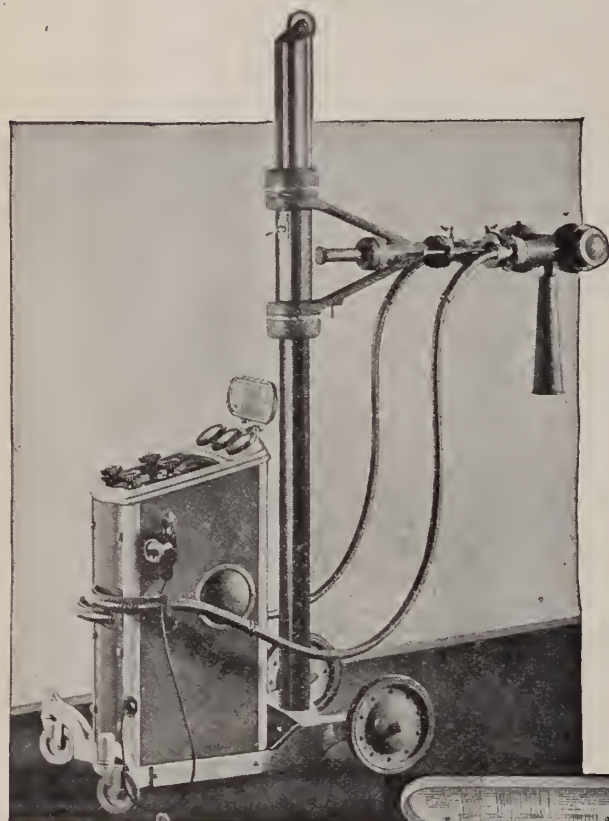
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_____.M.D.

The Mississippi Doctor

The Journal with a vision, the delivery of modern medicine to the masses at less cost to the individual and more profit to the practitioner. The champion of the small hospital, the hub around which this service must be built.

—Subscription Price, One Dollar A Year—

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at the post-office at Booneville, Miss., under
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EDITORIALS

The decentralization of industry is a very important question to the people of Mississippi and to all the Southern states. The decentralization of hospitals is just as important or more so. Big factory centers complicate our medical and social problems. They lower the general average of our citizenship. It is not necessary to actually decrease the bed capacity of our big hospitals, but to increase that of the small hospital and give them better equipment. There needs to be a different distribution of doctors. The proper support of the small hospital will bring this about. There needs to be an affiliation between the small hospital and the large, between the general practitioner and the specialist. They should work hand in hand. The country surgeon needs to refer complicated cases to the man of broader experience and of greater specialization. He is not fair with himself nor honest with his patient unless he does this. It is quite fair for the city specialist to refer the simpler appendix or similar condition to the country surgeon out in the small town who can handle it just as well or better and at less cost. This machine age is demanding that medical service be carried out to the commercial firing lines. The small hospital and the well equipped clinic are essential if this is to be accomplished. National, state, and municipal aid augmented by church and philanthropy must come to the aid of the small hospital and the indigent sick. In our state we have five state charity hospitals, located in five cities. They have done good work in the past. They are now. But one half or more of the patients entering them come from the counties in which the hospital is located. Generally speaking in a very large measure, seventy-seven counties are supporting five. This is taxation without medical service. It is unfair. Funds for the indigent sick in this state should be distributed on a per capita basis to every county. It is the only fair way to do it. Some selfishly interested have said this was pork barrel. If it is the present system is hoggish. It is true the small hospitals receive a pittance, but the distribution is not fair. Eighty-five per cent of the practice should be done by eighty-five per cent of the rank and file of the medical profession. The proper distribution of doctors will follow the well equipped and the well supported small hospital. The general batting average of the profession will be raised by the little hospital center in every county. Charity funds distributed on a per capita basis for the indigent sick in a hospital of his choice at a cost price, should be the motto of the medical profession.

The government has put too much money in too many big hospitals. A big percent of their patients could be treated just as well in their own home hospital. This would be better for the patient, for the "home doctor" who deserves a break, and for the home hospital which is fighting against financial distress to render a service. Railroads would do well to utilize the little hospitals along the way. The government should co-operate with its people, the majority. The railroads should extend a friendly hand. This would help to remove prejudice and misunderstanding.

The Association of Surgeons of the Southern Railway System, held its annual session at The Willard Hotel, Washington, D. C., June 18-20. Dr. A. P. McElroy, Union, S. C., was president. He presided in fine style. He is one of the veterans in the organization. He is a man of great value in the medical profession. He is a close student. His mind is ever in search of the truth. Dr. W. W. Harper, Recording Secretary, of Selma, Ala., was greatly missed. He was spending a few weeks down in Mexico with the Rotarians. Dr. Applegate and Miss Edith Foltz looked after all the wants and wishes in the most efficient and cordial manner. The doctors of Washington were very active in helping to make the meeting pleasant and profitable. The scientific program was above the average. Editor Frank C. Lewis was with us after missing last year. It was good to see him again. He is an able editor. He is fluent in speech, able in information and he has a heart true and tried. Dr. Henry F. Long, Statesville, N. C., is the newly elected president. He has behind him a fine record of many years of faithful service in the association. He is a man full of humor, but never looking for honors. He will make a fine president, worthy and well qualified in every respect. The next meeting of the association is to be held in Knoxville. This is the home of Dr. W. S. Nash, the spirit of Knoxville. He is one of the most learned surgeons of the Association. He is not only brilliant in intellect and well versed in medical and surgical knowledge but he is a man very active and he is practical in application. He knows how to entertain, he and Dr. S. R. Miller of Knoxville, an able and faithful, member of the society. It will be good to be there next June. We predict the largest attendance for the last six years.

The training school in the small hospital got a pretty strong drubbing at the Biloxi meeting in May. We are having too many nurses turned out no doubt. But to do all the cutting in the small hospital may not be best. For service to the masses the nurse trained in the small hospital, like the most of ours in Mississippi give the best satisfaction. They are more willing to do the work that must be done. They are usually more considerate of their patient, not so haughty and so independent, and they usually have some sense of economy. The nurse in the small hospital comes in closer contact with the patient. In fact they have many advantages over the one in the large as the one in the large does over them. When put to the test they are more satisfactory. The average nurse coming out of the big hospital has much to un-learn.

The good that can be done in the field of preventive surgery is growing day by day. The surgeon who just operates on the other man's diagnosis, although it may be right as often as his own, and does not study the problems of prevention is no more than a blacksmith, except he has the human machine instead of the harrow and plow.

Why can't we have a factory to make gowns that are used in hospitals, hotels, and beauty parlors? We can. We should. We will have. Do you want to take a little stock. Yes, well, all right.

We inherit half of our health and half of our disease, half of our resistance against the infecting organism, and half of the weakness to resist a germ or a disease. Even in the matter of bad tonsils and adenoids there is a big field for prevention. Weak "throated" people should not marry any more than weak lungs in reality. If we look far down the human ocean of time we will find here a productive service for the medical profession. Help to select grandparents of sound throats for the child and when it arrives, if it be forward looking, it will glance backward and call us blessed. We have hundreds and thousands of children in this country who are stunted in darkness, smothered in bad air and starved for the lack of proper food. Their clothing is scant and their housing is poor. They have colds repeatedly. These disadvantages often show in their tonsils and adenoids. The filter function is overcome and the resistance is broken down. Physical starvation takes hold of their intellects. These conditions are not confined to the slums. They are very common right out in the deep rural communities, down by the old mill stand in the one door and one window cabin. Who knows the real value of light to the laying hen or the growing child? It is up to the medical profession to deal with this problem, not just operate and remove bad tonsils and bad adenoids even as important as this is.

The surgeon in the small town will have some cases that he should send to the specialist. He should be quick to recognize these cases and send them along. The specialist should recognize the simple appendix and send it out to the country surgeon who can handle it better perhaps and at much less cost. Let us be fair and let us co-operative. Let us keep in mind the entire interest of the patient.

The general practitioner should take post graduate work often. This is important. It is also important for the professor teaching in a medical school to practice out in the country, over in Sullivan's hollow, down along Yellow Rabbit and Vinegar Bend every two or three summers and learn first hand what the general practitioner has to do.

The Ward Rounds by Dr. Isidore Cohn constitute one of our finest features in the journal. We have insisted that Dr. Cohn continue those for some time and he has consented to do so. We know you are glad. They are of real value. He is able and he is practical.

You will note the letter from Dr. G. S. Bryan in this issue. Read it and study its contents. He is standing upon the hill of many years of practice, observation, and study as he looks to the medical problems of the future. What he says is worthy of your most serious consideration.

There needs to be a leveling down and up of the prices between the specialist and the general practitioner, especially until there is more money for all.

We are glad to have an ad from the Allison's Wells Hotel-Sanatorium. There might have been a time when mineral waters and rest at resorts were over worked, but not now. Rest and mineral waters have plenty of value. The human body is composed of minerals and water, then why not? The practitioner needs to study anew the value of mineral waters. Under the direction of Doctor Brown, Allison's Wells will render a fine service. We thank you Doctor Brown. We shall stop in and have a "drink" with you.

The American Medical Association will meet in Kansas City next May. To avoid any conflict with our state meeting it has been moved up to the 5, 6, and 7th of May. Our state meeting will convene at Greenville, the capital city of the Delta over on the mighty Father of Waters. We predict the biggest meeting at Greenville that we have had for many years.

Through the persistent efforts of Dr. T. M. Dye, Secretary of the Mississippi State Medical Association, a quarter of a million dollars have been paid to the widows of doctors more than they paid in within the last five or six years. This is a fine record. It is a fine monument to Dr. Dye. Group insurance has been a great blessing to the medical profession of Mississippi for the last few years. We should keep it up.

There is no one thing common or of small importance in the practice of medicine. With dignity and with persistency carry out every detail in your noble calling. Let us raise the general batting average of the general practitioner. He is the chief corner stone of the profession.

In the matter of accidental deaths the medical profession has a grave duty to perform. We should inform the public on the part whiskey, poor eyesight, mental disturbance, defective hearing, et cetera, has to do with the shameful human slaughter in America.

It is time to be thinking about the next meeting of the Mid-South Post Graduate Medical Assembly. It is outstanding in importance in the United States. Watch this journal for further information.

Our last meeting at Houston was a big success, we are told. Houston knows how to entertain. Our next meeting will be held at Greenwood Springs. We will all be with you, Dr. Bryan.

Superintendents, nurses and internes should be taught economy. Better hospital service at less cost is the idea. This is possible. There is too much waste in the average hospital.

There is only one county in Mississippi that does not have a hospital or adjoin a county that has one. Now give us charity funds on a per capita basis.

Read every paper in this issue of the journal. It will do you much good.

Hospitals should be operated to serve and not to make a profit for the stockholders.

Drs. Jim Hill, of Corinth, L. L. McDougal, of Booneville, Jim Rice, of Natchez, are prominent among the candidates for the state legislature.

It is not the three hundred thousand dollar hospital our state needs so much, it is the thirty thousand, thirty to fifty.

Post graduate work out to the busy practitioner is real service. For this we give thanks unto Dr. Felix J. Underwood.

Dr. A. J. Carter, of Laurel, was elected vice-president of the Southern Railway Surgeons at Washington, last month.

Every citizen should be left free to go to the hospital of his choice and to chose the doctor he prefers.

Service can not be destroyed. Some way, some where, some time, it shall be rewarded according to its worth. Don't forget this.

Memphis, Tennessee is steadily growing as a medical center.

Dr. R. B. Caldwell, of Baldwin, is completing a nice Clinic with several rooms for patients.

Officers—Southern Railway Surgeons

The 38th annual meeting of the Southern Railway Surgeons elected the following officers in Washington, D. C., June 20, 1935: President, Henry F. Long, Statesville, N. C.; First Vice President, Chas. O. Bates, Greenville, S. C.; Second Vice President, F. J. Abel, Wainessville, N. C.; Sec'y & Treasurer, Miss E. Foltz, Washington, D. C.; Recording Sec'y, W. W. Harper, Selma, Ala.

Ole Doc's Wife

Ole Doc's wife was a busy ole soul,
Oh a busy ole soul was she!
For she watched the clock as she chauffeured the Doc,
And she cooked for her kiddies three.
Every kiddie was a fine kiddie—
Oh such very fine kiddies had she!
But they starved by heck—He couldn't collect!
Ole Doc's wife and her kiddies three.

Vera Blood Fletcher, 18 Fern Street, Hot Springs, Ark.

In A Hospital

Gray walls, gray doors, gray beds and all,
And starchy nurses at my call—
Outside there's naught but cold and rain
And down the hall a moaning pain.
All through the day—and night hours too,
By all the signs I should be blue!
But no! A silken shade of red
Is like a friend beside my bed!

Vera Blood Fletcher, 18 Fern Street, Hot Springs, Ark.

Ward Rounds

ISIDORE COHN, M.D., F.A.C.S.*
New Orleans, La.

—Part 2—

We have selected for the ward rounds today a series of patients presenting masses located in the area between the zygoma, the clavicle, the symphysis of the mandible and the mastoid process.

In this region the variety of conditions which must be considered include congenital anomalies, (such as branchial cysts, ranulae and hygroma coli) glandular enlargements which may be acute or chronic inflammatory in character, tumors, benign, malignant or metastatic of all of the tissue systems, as well as diseases such as Hodgkin's and the leukemias.

It becomes immediately important to realize that snap-shot diagnoses be avoided. In this region the shrewd guess is not acceptable. Accuracy in diagnosis will depend on a carefully taken history, adequate examination, followed by a careful study of the sum total of all of the information thus acquired.

These cases form one of the most fascinating diagnostic problems. They also offer some of the most difficult technical surgical procedures for successful execution.

The reasons for these two facts are easy to see;—first, the great variety of possible tissues and systems which may be involved, and second, the intimate relationship of so many important structures makes surgery a serious undertaking; one which should demand of us a continuous review of anatomy so that one may feel like the little boy who was quizzed by a stranger who had lost his way. The stranger asked the boy many questions with reference to direction and proximity to communities. To all of the questions the boy replied "I dunno." In exasperation the stranger said: "Little man what do you know?" to which the boy replied: "All I know is I aint lost." To be able to say that you are not lost in the neck is a comforting feeling.

Time devoted by a surgeon to a review of anatomic structures and their relationship before undertaking major neck surgery will reward that surgeon in that he will be more direct in his approach and he will find that there is decidedly less lost motion in his work. The saving of time in this way will aid your patient's convalescence as the anesthetic time is diminished and there is of necessity less trauma to tissue.

* * *

The first case to be presented is a colored woman, age 29 years. M. W. Patient was admitted to Charity Hospital March 28, 1935. Complaint: Swelling in the neck.

According to the patient's statement the mass had been its present size about one and one-half to two years. It had not been painful at any time. No other history was obtained from the patient except the fact that no similar masses were present on any part of her body. There had been

no loss of weight, no cough and no sore throat. Swallowing was not difficult. There was no history of a general weakness.

Examination: Patient was a well nourished woman. On the right side of her neck there was a large, irregular mass, the upper limit of which was slightly above the angle of the mandible, the lower limit just above the clavicle. It extended anteriorly slightly to the right of the thyroid cartilage and posteriorly to the line from the mastoid to the clavicle. The skin covering the mass moved freely over it. It was neither glossy, edematous nor were there telangiectases on the surface. There was no visible pulsation, either transmitted or expansile in character. The mass was firm, hard, nodular and not tender to the touch. There was one independent mass anterior to the larger mass. The mass was not movable on the underlying structures. The glands of the opposite side were not palpably enlarged and there were no palpably enlarged glands in the axillae or groins.

From the history and examination thus far several important diagnostic possibilities could be eliminated. Of those the following are among the more important—branchial cyst, acute inflammatory cervical adenitis, lipoma and carotid body tumor.

Branchial cysts are the result of failure of closure of an embryonal structure, the branchial cleft. Cysts of this type appear soon after birth, particularly in the early years of life. They are resilient, have a tense feel, not nodular and are, as a rule, transilluminable. They rarely attain great size.

Acute cervical adenitis is eliminated by the absence of acute constitutional reactions such as fever and by the absence of such skin changes as redness and glossiness. Moreover the mass would not have been present long without evidence of breaking down and sinus formation.

Lipomata are soft, resilient and do not move independently under the overlying skin.

Carotid body tumors even though comparatively rare should not be over-looked. Carotid body tumors have a lateral mobility, but do not move in the long axis of the body. This is due to their point of origin, the bifurcation of the carotid. More will be said of this lesion, as one such case will be discussed in the course of this presentation.

Aneurysm cannot be entirely eliminated by inspection, palpation or auscultation, yet the absence of expansile pulsation, thrill and bruit are suggestive evidence that we must look further if an aneurysm is to be shown to be the cause of a mass in the neck. A cardiogram and fluoroscopic examination together with the history would be necessary to confirm that the aneurysm had existed even though it was "stilled" and only the organized clot remained.

Glandular enlargements due to infection, tuberculosis or syphilis, metastatic involvement of lymph nodes from a distant primary lesion of necessity re-

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*Professor and Head of the Department of Surgery Graduate School of Medicine, Tulane University Associate Senior Surgeon, Touro Infirmary.

quire one to consider the lymph drainage tracts. For that reason in the examination of the patient one must look to the scalp, the ears, tongue, lips, tonsils, palate, pharynx and larynx for a possible primary lesion.

In the case under consideration there were no difficulties for as soon as the patient was asked to open her mouth we noted an ulcerating, infiltrating lesion on the right side of the soft palate just behind the hammular process. Here then our search was at an end, so far as this case was concerned, for we had a primary carcinoma of the soft palate which had metastasized to the cervical lymph nodes.

Immediately we were confronted with two problems, were there distant metastases to the mediastinum, lungs or skeleton and what was the method of treatment, if any.

The X-ray of the chest did not indicate involvement within the thoracic cage.

The prognosis is exceedingly unfavorable in such cases. Surgery is of no avail. Irradiation therapy is the only possible hope for prolongation of life. Deep X-ray therapy or radium packs externally and the implantation of radon is the only available method of treatment. Radium needles are not easily held in the palate, but radon implants can be used with ease, and with effectiveness.

Lamarque, Roux and associates in 1931 reported the results obtained with radium treatment. Eight cases of carcinoma of the soft palate were treated. In six cases the primary lesion healed, four were alive and apparently well for five years or more. From this experience something definite is learned. It is an incentive to be neither too pessimistic nor yet to optimistic. One must not assume the fatalist attitude towards these patients. If these patients can

be made comfortable and life apparently prolonged it is our duty to do so.

Radium in sufficient quantities to be of real value in the treatment of malignant disease cannot be in the possession of most of the profession, but we can obtain radon from laboratories which possess radium in quantities. These laboratories collect the radon and after calculating for loss in transit send in sealed gold or platinum "seeds" sufficient quantity to permit a known amount to reach its destination. The use of radon makes it possible for qualified surgeons in the smaller communities to give their patients the benefit of irradiation therapy at home with comparatively little cost to the patient.

Let us remember that radon is a gas emanating from radium which can be collected and measured and its radio-active properties calculated.

In this manner a known amount can be applied and the area to be affected calculated just as with radium itself. When using radon the unit is the millicurie and from an implant of known millicuries one can estimate the dosage in millicurie hours. From one millicurie it is estimated that 133.3 millicurie hours of radiation are obtained before the implant has entirely decayed. This requires about ten days. In calculating the number of implants to use to obtain effective irradiation it has been estimated that approximately one millicurie for each square centimeter of tissue involved is needed. Special applicators for implanting radon makes introduction easy.

The ease of obtaining and applying radon should encourage more of us to qualify ourselves to use it, at the same time extravagant claims should be avoided and its use should be limited to the types of tissue most likely to be affected by it.

Because of the ease with which the diagnosis

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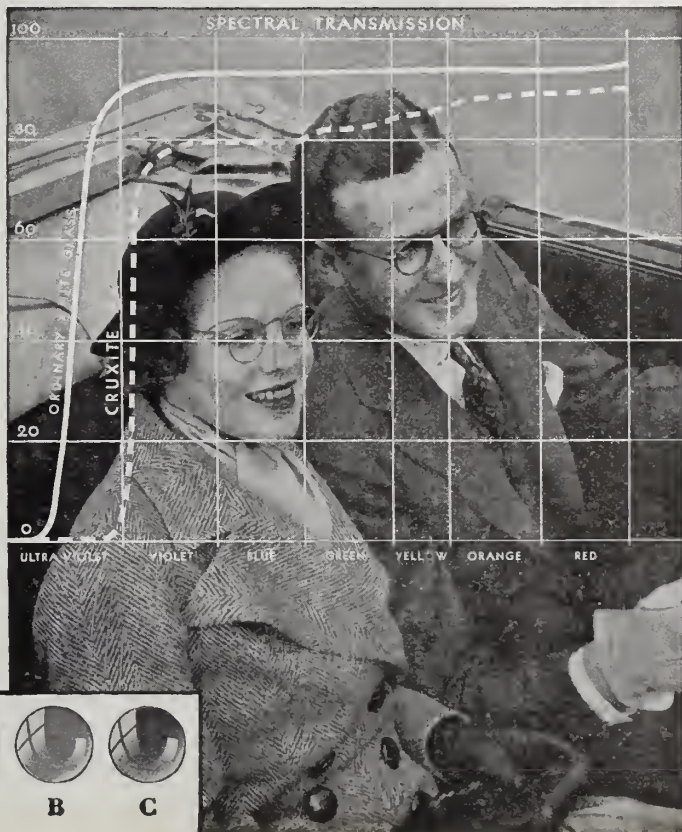
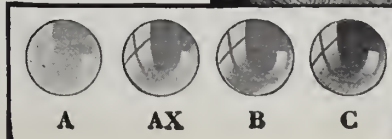
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could be arrived at in the case under discussion may give some a false sense of the ease of diagnosis of cervical tumors. Had the soft palate tumor not been present our search would have had to be continued. This fact recalls cases in which there were no evident ulcer on the lip, tongue, tonsil or palate. In one particular instance, previously reported in this Journal, Mr. F., a patient age 55 years, had a mass on the right side of his neck. The man's weight remained about the same, around 220 pounds. He had no difficulty in swallowing and no visible or palpable primary lesion that could be found. A consultation with an otolaryngologist failed to help me. Since the mass occupied the region of a carotid body tumor, and since it seemed to possess all of the characteristics of such a tumor I operated and to my surprise the report was returned "squamous cell carcinoma."

Again I turned to the oto-laryngologist as I knew that such a growth was not primary in the neck. On his second examination the consultant reported that a tiny ulcer existed in the fossa between the tongue and the tonsil. This patient lived.

As mentioned before carotid body tumors while rare must be considered when a patient presents a single, hard, painless, slow-growing mass along the course of the carotid artery. The maximum enlargement of the growth is usually about the level of the bifurcation of the carotid. There may be a transmitted pulsation, but there is never an expansile pulsation. The mass moves laterally to the extent that the carotid can be displaced in that direction, but there is no movement in the long axis of the body. This is of necessity true because of the fixed point of origin in the bifurcation of the carotid. These tumors on auscultation may give a slight bruit due to compression of the lumen of the carotid.

As a rule they are not associated with aphonia, dysphagia or other distressing symptoms. They are not invasive in character and if they are removable they do not recur. Occasionally they are bilateral as in Rankin's case.

If one suspects the existence of a carotid body tumor he must be prepared to ligate one or all of the carotids on one side. He should prepare the patient for this procedure by trying to improve the collateral circulation to the brain before the operation, since an amount of anemia produced by sudden circulatory insufficiency may either result in death or hemiplegia.

Dr. Matas was a pioneer in this type of work when he advocated the use of the removable aluminum band on the carotid. One may and should follow his lead by utilizing digital compression of the carotid for a period of time daily until one feels that the cerebral circulation can be considered adequate before operating.

Recently George Dorrance presented a remarkable study of the effect of ligating the great vessels in the neck. Those who have had the misfortune to have a respiratory or circulatory failure or other tragedies or near tragedies on the operating table must welcome any suggestions that will aid in his desire and hope to safe-guard his patients when these desperate cases are undertaken.

I have suffered this experience and I have sought aid from whatever sources I could. I have been criticized by many not qualified by knowledge but by the lack of something better to do. These same critics

are to be pitied not censured. Never having done much more than remove an appendix which was free of adhesions some men feel themselves particularly entitled to be the guardians of the public. No more need be said of this type of unfortunate among us.

When a carotid body tumor is to be operated some of the major problems to be prepared for are:

1. How to avoid and control hemorrhage.
2. How to avoid respiratory and circulatory failure which is independent of hemorrhage, anesthesia and other of the more obvious factors.
3. How to avoid hemiplegia.

How to avoid and control hemorrhage. Let us remember that carotid body tumors as they may so involve the carotids that it may not in all instances be possible to find lines of cleavage, and even when cleavage lines are found there is still danger of injuring the walls of the vessels.

If ligation of the common carotid is done is that sufficient? If ligation of the internal carotid is done will that be sufficient? These and many other questions must be answered before hand or the patient will have to take his chances on the "trial and error" plan.

Dorrance has made an attempt to answer many of the possible dilemmas in which we find ourselves. One important fact must not be overlooked and that is that there is less danger to cerebral circulation from ligation of the common carotid than ligation of the internal carotid since there is a distinct reflux into the external carotid. In other words, if it is possible, in carotid body tumors, it is desirable only to ligate the common carotid then you will have interfered with cerebral circulation only fifty per cent as much as if the external and internal carotids were ligated. This is not always possible—then all vessels must be ligated and that portion of each vessel included within the growth removed with the mass. This I have had to do in one case.

Case V. C., a young colored woman admitted to Charity Hospital. In this instance the tumor completely enclosed the vessels so that it was necessary to ligate the common carotid below the tumor and the external and internal carotids above the tumor. There was no disturbance of circulation as the result of the operation. She made an uneventful recovery.

How to avoid respiratory and circulatory failure? This caption is incorrect to the extent that one may not be able to avoid it but at least he should be prepared to consider the possibility and to utilize such measures as are at his command.

The essential fact to remember is that there exists what is known as the "carotid sinus." Since so little is generally known about the carotid sinus some facts with reference to carotid sinus should be mentioned.

In one instance I suffered by having the calamity

DR. E. M. HOLDER

General Surgery and Gynecology
Suite 302 Physicians and Surgeons Building
Baptist Hospital Annex - 899 Madison Avenue
Telephones: Office 6-2184; Res. 8-1640
Memphis, Tenn.

of a sudden death several hours after the operation.

Case A. E., age 55 years, July 26th, 1917. Diagnosis—Carotid body tumor.

After the operation was over the patient had a respiratory failure, which was succeeded soon by cardiac failure. After five minutes artificial respiration the patient began voluntary respiration. Amyl nitrate, atropine, and oxygen were administered and the head of the table was lowered. He never regained consciousness, pupils never again reacted to light. Patient, however, became restless during the afternoon. He moved both extremities. Temperature rose to 105.8 before death, which occurred at 6:30 July 30, 1917. No autopsy.

Here we see that it was not hemorrhage and yet phenomena such as a drop in the blood pressure, bradycardia, and respiratory failure occurred. I sought help from the physiologist with reference to possible injury to the pneumogastric or phrenic as a cause. I was informed that no such result could be attributed to damage to either one or both. Since that time in 1917 we have learned much with reference to phrenic nerve surgery and to the vagus reflex so that it would not now occur to any one to attribute any such effect to the phrenic or the vagus.

What is the carotid sinus and what are some of the effects of stimulation of it? McKean Downs says: "The carotid sinus or bulb is a dilatation of the root of the internal carotid artery which is sharply localized and is distinguished histologically from the ordinary arterial wall by being thinner and by possessing a rich arborization of nerves. It is connected to the

brain by its own special nerve which is a branch of the glosso-pharyngeal."

Downs found in a series of experiments that stimulation of the carotid sinus caused bradycardia, a drop in blood pressure and respiratory failure.

Dorrance in his recent review of the subject stated: "The effect of stimulation of the carotid sinus would nominate this sinus as of major importance in the explanation of the sequelae of carotid ligation."

He found out that in young people the sinus reflex occurs in only 25 per cent of the cases, in elderly people with an arterio sclerosis and hypertension, the depression of blood pressure may amount to 100 millimeters of mercury.

Dorrance further states: "Ligation of the internal carotid with a building up of both pressure would tend to stimulate the sinus."

Nothing further need be added as a caution to him who would lightly undertake to ligate the carotid, removal of a carotid body tumor or other tumor in that vicinity. There is danger lurking in every move and we must be prepared before hand to accept our responsibilities.

(To be continued)

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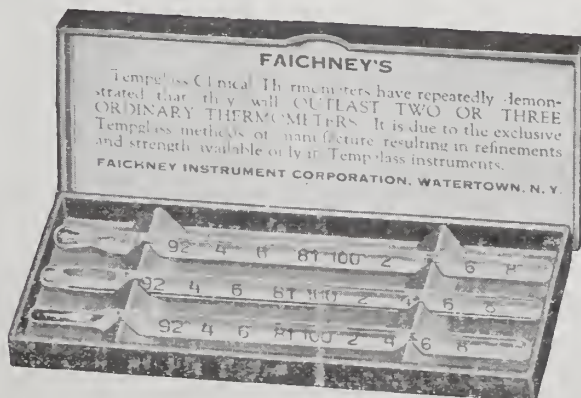
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Newer Conceptions of Pathogenesis and Treatment of Pneumonia (Lobar) *

POL. N. CORYLLOS, M.D.†
New York City

The bacterial incitants of acute infections of the lung, described as pneumonias and bronchopneumonias are well known. Equally well known are the pathologic and histological changes occurring in the pulmonary parenchyma during the different stages of these diseases. But when we search in text books and literature for an explanation of the lobar distribution of pulmonary infections produced by pneumococcus and pneumobacillus as opposed to the lobular distribution of pulmonary diseases caused by influenza bacillus and the ordinary pyogenic micro-organisms we find none, or we find the most fantastic and more or less metaphysical theories.

Netter wrote in 1801:

Pneumococcus does not suffice for determining a lobar pneumonia. Its arrival in the pulmonary parenchyma is not necessarily followed by lobar pneumonia. It may trespass the organ and localize in the pleura or pass in the circulating blood and cause peritonitis or meningitis. It might even determine bronchopneumonia. There must be some other factor which determines the localization of the disease, right from the beginning and its limitation to a lobe. In lobar pneumonia before the beginning of the disease the bronchi were healthy and the lung parenchyma normal. For the localization of pneumococcus in one lobe, it is necessary that all parts of a lobe, to the exclusion of the other portions of the lung be rapidly modified and a favorable soil formed for the development of the micro-organism.

Wadsworth, in his excellent paper upon the Etiology of Acute Pneumonitis, in 1904, came to the conclusion that:

Our knowledge of the essential conditions which determine the extent and nature of the disease processes in the lung lacks the precision which can only come from experimental data. This may be attained only when it is possible to reproduce at will the various disease processes in animals.

Innumerable theories have been advanced for the explanation of this peculiar lobar localization of pulmonary infections due to pneumococcus and in 10% of all cases to pneumo-bacillus of Freidlander.

Cold has always been considered as one of the most important factors in the production of lobar pneumonia.

Netter considered that cold exerts a nervous reflex action on a pulmonary lobe which rapidly renders this lobe a favorable soil for the development of

pneumococcus. He added however:

"There is no experimental proof of this fact, because irritation or section of the pulmonary nerves has never produced a true pneumonia. But unfortunately there is no other way of explaining these two important facts, namely limitation of the lesion to one lobe and onset of the disease very rapidly after exposure to cold."

A similar theory was advanced by Lipari who in 1888 tried to produce lobar pneumonia in rabbits and guinea pigs by introduction of pneumococcal sputum into their trachea; he failed in the normal animal but succeeded when the animals had been kept in ice water for a while. He thought that cold had an inhibitory action on the movements of the cilia, which, under normal conditions, are sufficient for protecting the lung against infections. The observations of Lipari seem to be corroborated by lobar pneumonia following shortly after exposure to cold or submersion in cold water as in the often quoted case of Bein.

The reflex nervous action of cold, whatever may be this reflex, seemed to find an experimental proof in the so-called "vagus pneumonia of Muller, which occasionally follows unilateral or bilateral section of the vagi in animals. But Traube (1846) and more recently Kline and Winternitz (1915) showed that in these cases we really deal with aspiration or deglutition pneumonias due to paralysis of the glottis.

A similar nervous reflex was accepted by Proust, Albert Koch, Reinboth and others as the etiological factor in the production of lobar pneumonia following traumatic injuries of the chest. It is now well known that in these cases we deal with atelectasis.

This theory of a "lung reflex" causing pneumonia following exposure or traumatism has been definitely disproved by the work of Sode, Sanarelli, Kisskall, Heidenham, Massalongo, Fischl and others; these authors have shown that cold or traumatism may give rise to hyperemia, congestion, transudation or hemorrhage and predispose to many infections, but cannot, by themselves, produce lobar pneumonia.

It is the same with mechanical or chemical injuries of the bronchial mucosa as following aspiration of foreign bodies or inhalation of various noxious substances in gaseous or liquid state, as war gases or caustic fluids. Here again these injuries may predispose to pneumonia but they cannot determine it.

Even introduction of pneumococcus into the trachea is not always sufficient to produce the local changes of lobar pneumonia; often a simple pneumococcal bronchitis develops or the animal dies with pneumococcal septicemia without any production of lobar consolidation. Wadsworth tried to avoid this difficulty by preliminary immunization of rabbits so that virulent cultures of pneumococcus could be used without giving rise to bacteremia.

A different solution of the problem of pathogenesis of lobar pneumonia was proposed by Lamar, Meltzer,

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†Director of Thoracic Surgery of Metropolitan and Sea View Hospitals of the City of New York. Prof. of Clinical Surgery and Associate in Surgical Research Cornell Medical College, New York City, N. Y.

CHARLES D. BLASSINGAME, M.D.
414 Physicians and Surgeons Bldg.
Memphis, Tennessee

Oto(ear)-laryngo(throat)-rhin(nose)-ology
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Wollstein and their associates (1912). These authors experimented on dogs using intratracheal in sufflation of pneumococcus, Friedlander bacillus, streptococcus and staphylococcus. They succeeded in producing lobar pneumonia only when they insufflated pneumococcus or Friedlander bacillus whereas bronchopneumonia was produced with other organisms; they concluded that the form of pneumonitis depends on the type of microbes insufflated whereas the presence or absence of bacteremia depends on their virulence. The mere presence of pneumococcus in the bronchi, said Meltzer, is not sufficient to produce lobar pneumonia; however when pneumococci are surrounded by tissue or inclosed in a sac they start to multiply and lead to pneumonia. He even suggested that a similar situation may arise where a "previous cold" furnishes a mucous secretion which might produce bronchial occlusion and "thus prepare a favorable ground for the pneumococci, secondarily infecting this mucous secretion, to develop rapidly and invade the surrounding tissues."

In 1920 appeared a series of studies of experimental pneumonias on monkeys by Blake and Cecil. These authors have proven, by a considerable number of strictly conducted experiments, that pneumococcic pneumonia is bronchogenic and non hematogenous in origin, and that the pathological changes begin at the hilum and not at the periphery of the lung. They have thus corroborated the experimental findings of Wadsworth, Lamar, Kline and Winternitz.

From 1921 to 1926 the question of pathogenesis of lobar pneumonia did not seem to excite any great interest; attention was concentrated on the distinc-

tion between different types of pneumococcus elaborated by Dochez and Gillepsie and to the treatment of the disease by specific sera. The status of our knowledge at that time was that cold, traumatism or circulatory change in the lung predisposed the ground to the development of pneumococcus and production of lobar localization of the infection caused by pneumococcus could not be accounted for, nor was there any plausible explanation offered for other peculiar characters of the disease such as absence of displacement of the mediastinum towards the healthy side although the pneumonic lung was believed to be enlarged, frequent displacement of the mediastinum towards the affected side, constant elevation of the hemi-diaphragm corresponding to the affected side, occurrence of crisis between the 5th and 12th days independently of the presence or not of antibodies, lobar recurrences after crisis, abortive forms, delayed or unresolved pneumonias, and occasionally development of suppurative pneumonitis and abscess and later bronchiectosis.

Personal Contributions: Following a long experimental and clinical investigation on atelectasis conducted at the department of Surgical Research of Cornell Medical College and at Bellevue Hospital, the writer in collaboration with Dr. Birnbaum, ventured (in 1929) a new conception of the pathogenesis of lobar pneumonia. According to this hypothesis lobar pneumonia was due to the obstruction of a lobar bronchus by tenacious pneumococcic exudate occurring in the course of pneumococcic bronchitis. Thus lobar pneumonia was identical, in its pathogenesis, to postoperative atelectasis and postoperative pneumonia. Ex-

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perimental, radiographic, clinical, pathological and bacteriological evidence was presented by these authors corroborating their conception.

A brief historic account of the development of this rather revolutionary theory might facilitate its comprehension and point to its bearing upon the treatment of the disease.

Development of the Theory: In 1926 Coryllos and Birnbaum in their experimental studies on atelectasis had devised a special technique by which they were able to produce at will occlusion of a chosen bronchus, up to the third order by means of a small elastic balloon filled up with a radio-opaque fluid. This obstruction was invariably followed by atelectasis of the lobe or of a portion of the lobe corresponding to the obstructed bronchus. When very small bronchi were obstructed such atelectasis did not always follow, because the interalveolar septa are permeable to gases, so that collateral aeration was taking place, as was later described by Van Allen. The atelectatic lung thus obtained was identical with the fetal lung or the atelectatic lung in the human produced by accidental bronchial obstruction by a foreign body or by any other cause. Atelectasis or apneumatosi was produced by the absorption of the air entrapped in the alveoli, at the time of the obstruction, by the blood circulating in the alveolar capillaries. The intimate mechanism of this procedure was studied experimentally by Coryllos and Birnbaum. Absorption of air causes a more or less marked reduction of the size of the atelectatic lung and gives rise to a number of radio-graphic and clinical symptoms which are identical in experimental animals and in the human. These symptoms are flattening of the chest wall of the affected side, narrowing of the intercostal spaces, decrease of respiratory movements, dullness or percussion, absence of breath sounds or later development of bronchial breathing, opacity in the x-ray films of the involved pulmonary areas and reduction of their size, elevation of the corresponding hemidiaphragm, displacement of the mediastinum, heart and trachea toward the affected side, and vicarious emphysema of the healthy parts of the lung.

The similarity of experimental atelectasis with postoperative massive collapse of the lung was striking, and corroborated the theory that the latter was due to bronchial obstruction by viscid bronchial exudate. Shortly after the first communication of Coryllos and Birnbaum, Lee, Raydin and Tucker produced typical atelectasis in a dog by introducing into its bronchi exudate aspirated from the bronchi of a patient with postoperative atelectasis. Thus there could be no doubt that bronchial obstruction by viscid mucous exudate could produce postoperative atelectasis.

However the consensus of opinion at that time was that besides bronchial obstruction a number of other causes could produce atelectasis in the human. William Pasteur and Rose Branford went even so far as to deny completely that bronchial obstruction was a factor in the pathogenesis of postoperative atelectasis and this on the ground that "no plugged or obstructed bronchi were found at autopsy." The same argument was to be advanced later in relation to lobar pneumonia.

The theories on the etiology of pulmonary atelectasis generally supported at that time, and even

now (although only occasionally and by a limited number of authors) were: muscular reflex and especially paralysis of the diaphragm (Pasteur); immobility and contraction of the chest wall (Brandford); bronchogenic reflex producing spastic contraction of the smooth fibers of the lung and mechanical expulsion of the air contained in a lobe (Churchill, Lilienthal, Scott and Joelson, L. Santee, Lee, etc.); swelling of the bronchial and alveolar mucosa by a vasomotor reflex akin to angioneurotic edema (Gwyn, Scott and Cutler, Bergaminni, and Shepard, Fontaine, Leormand and Iselin, etc.); or minor embolisms of the pulmonary vessels (Cutler and Morton, Cutler and Hunt, de Quervain etc.).

A long experimental investigation carried on for several years by Coryllos and Birnbaum and reported in detail in several papers had convinced these authors that none of the causes mentioned above could be the determining factor in the production of atelectasis; they may occasionally prepare the ground, but the real determining agent is but one, that is obstruction of a bronchus, whatever may be the agent producing it. Thus atelectasis may follow aspiration of a foreign body, tumors of the lung, compression of a bronchus from the outside as by tumors of the esophagus or mediastinum, by enlarged lymphnodes or even by the hypertrophied left auricle in mitral stenosis. Direct bronchoscopic examinations have verified this conception; furthermore in postoperative atelectasis bronchoscopy has shown that bronchial obstruction was caused by tenacious sputum and removal of this mucus repeatedly produced cure of the disease. Bacteriological examination of the sputum in these cases has as a rule shown that pneumococcus belonging to group IV was present in the bronchial exudate. This fact being firmly established the attention of Coryllos and Birnbaum was attracted to the clinical and bacteriological similarities between postoperative atelectasis and postoperative pneumonia. In both the same radiographic signs were found and in both most frequently group IV pneumococcus was present in the sputum. Higher toxicity, longer duration and severer prognosis in postoperative pneumonia were the only differences between these two pulmonary complications. The hypothesis of the possible identity of the pathogenesis of these two complications was strongly supported by the results obtained in the exhaustive study of postoperative pneumonia carried on in the Presbyterian Hospital of New York by A. O. Whipple (1918); Whipple had shown that in every case of postoperative pneumonia pneumococcus was present in the sputum and that it was of the same type as the one found in the upper respiratory tract of the same patient before operation.

Besides this important fact the work of Whipple showed something else the significance of which did not seem to have attracted any attention at that time. It showed the similarity between postoperative pneumonia and a "mild form of medical pneumonia"

FRANK W. SMYTHE, M.D.

Practice limited to

Surgery and Radium Therapy

Baptist Hospital Annex

Memphis, Tenn.

studied and described in France by Carriere as "mild pneumococcic pneumonia of Woillez;" this form of pneumonia according to Whipple, was produced by a pneumococcus of "low toxicity" which was proven to belong to the group IV.

On the other hand one cannot help recognizing in the description given by Whipple of "postoperative pneumonia" all the earmarks of postoperative atelectasis. The characteristics of postoperative pneumonia, according to Whipple were:

"Sudden onset . . . pleuritic pain . . . initial high temperature . . . shadow in the lungs, usually in one of the lower lobes, triangular or wedge-shaped, dullness over the corresponding area with diminished breath sounds, tenacious sputum usually showing pneumococcus group IV in both pre-operative and postoperative specimen. . . This type occurs in otherwise healthy individuals as a rule giving the history of a recent concurrent "cold" at the time of the operation."

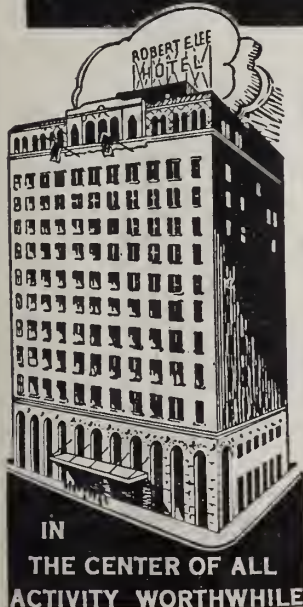
The hypothesis of the identity of these diseases was further strengthened by the identity of their distribution in the lung; in fact as atelectasis could present a multilobar, lobar or lobular distribution, according to the size of the obstructed bronchus the same postoperative pneumonia could affect a whole lung, or a lobe or only a few lobuli and be diagnosed as massive or lobar pneumonia or as bronchi-pneumonia. Their common predominant localization in the lower lobes, especially the right was also impressive.

Thus at that time the following points were solidly established. First, that atelectasis was due to bronchial obstruction; second, that postoperative atelectasis was due to bronchial obstruction by thick sputum containing pneumococcus; third, that postoperative atelectasis and pneumonia presented the same clinical and radiographic symptoms and signs and differed only in degree of locality; fourth, that in both, pneumococcus, most frequently group IV, was present in the sputum and fifth that postoperative pneumonia was identical with a form of medical pneumonia due to pneumococcus belonging to group IV. In other words, the identity between these 3 pulmonary diseases, postoperative atelectasis, postoperative pneumonia and the medical pneumonia described by Woillez appeared to be established upon solid, clinical, radiological, bacteriological and pathological evidence.

These similarities and especially the frequency of the lobar distribution of the lesions in atelectasis and postoperative pneumonia on one side and in medical lobar pneumonia on the other side have suggested to the writer the thought that it was not improbable that medical pneumococcic pneumonia be equally determined by the obstruction of a lobar bronchus and incited him to submit this hypothesis to experimental scrutiny. This hypothesis, although bold at that time seemed to fit with and explain a number of phenomena heretofore puzzling and obscure; for example, that pneumococcus and Freidlander pneumo-bacillus (which produce fibrin and

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mucin in far greater amounts than any ordinary pyogenic microbe and consequently give rise to a much more viscid sputum), were precisely the organisms which produced lobar pneumonia; that most frequently, always according to Austrian, lobar pneumonia was preceded by common cold and pneumococcic bronchitis; that pneumonia, like obstructive atelectasis may end by lysis but very frequently by crisis; the latter may occur a few hours after onset, but generally crisis occurred between the 5th and 12th days. This could possibly depend upon the time necessary for digestion of fibrin of the bronchial exudate and the decrease of its viscosity; that, in some cases, both in bronchial obstruction and lobar pneumonia when lysis or crisis did not occur suppurative pneumonitis developed, giving rise to a prolonged consolidation, suppurative pneumonitis and even, later to bronchiectasis.

There was, however, a fact which stood squarely against this hypothesis; this fact was the increase in size of the pneumonic lung, which has been admitted without discussion since the time of Hippocrates by all pathologists and medical men. But then, if this was really so, why was the diaphragm elevated in lobar pneumonia in the affected side, and why was there no displacement of the heart and mediastinum toward the healthy side? Was it not possible that the enlargement of the lung found at the autopsy table was only apparent, due to the collapse of the healthy lung following the opening of the chest? This idea was checked, on a patient who died with unilateral lobar pneumonia. At the autopsy table the trachea was clamped before opening of the chest; it became obvious at once that the healthy lobes were larger than the diseased ones. It thus became apparent that the solution of this problem could be obtained only by experimental investigation. A method was devised by Coryllos and Birnbaum for producing lobar pneumonia in the dog. Broth culture of pneumococcus type I was used. 0.5 c.c. to 1 c.c. per kilogram of body weight of the culture, 15 to 19 hours old, was centrifuged and the sediment taken up in 1 cm. of broth; it was then injected by means of a narrow tube into a bronchus of the animal under direct vision through the bronchoscope. Typical pneumococcic lobar pneumonia was thus obtained in 90% of our dogs, localized to the lobe of the bronchus in which the culture was injected. The bacteriological and histological characters of the disease, checked by the bacteriological and pathological departments of our college left no doubt upon the nature of this experimental pneumonia. Thus these authors were able to produce lobar pneumonia at will and localize it in any part of the lung as they have done for atelectasis.

The results obtained were striking. The x-ray films of lobar pneumonias were so similar to the film of atelectasis following bronchial obstruction that it was almost impossible to distinguish one from the other. There were the same displacement of the mediastinum, the same opacity of the affected lobes and same elevation of the diaphragm. The only difference consisted in the less marked decrease of the size of the affected lobes because of the marked inflammatory infiltration and edema. Furthermore, when the chest of the animal was opened, only the healthy lung would collapse and thus appeared smaller than

the diseased and consolidated lung. But if the trachea was clamped, before the chest was opened, the healthy lobes were always larger than the diseased ones.

The circulatory changes in atelectatic and pneumococcic lobe were so studied. By injecting into the jugular vein of the living animals 2-4 c.c. of lipiodol for the study of the branches of the pulmonary artery and in others of a 20% solution of india ink in Ringer's fluid for the study of the alveolar capillaries. It was found that circulatory changes were identical in atelectasis and in lobar pneumonia. Contrary to the conception of Gross there were no changes in the arterial flow in the diseased lobes, and in vascular occlusions; but there was marked disruption of the capillary circulation because of the collapse of these capillaries caused by the collapse of the alveoli. The similarity of these changes in the atelectatic and pneumonic lung was really impressive. The only difference consisted in the presence of more exudate and cells in the pneumonic than in the atelectatic lung. But even this difference did not exist in cases of septic atelectasis produced by previously infecting the balloon used for the obstruction of bronchus.

Furthermore, by introducing sputum of human pneumonia patients into the bronchi of a dog, atelectasis similar to postoperative collapse was produced when the virulence of pneumococcus was low, and typical and lethal pneumonia when the virulence of pneumococcus was high.

For further verification, 9 patients with lobar pneumonia were bronchoscoped. In all the bronchi corresponding to the consolidated lobes were found to be blocked and not breathing.

Time and space does not allow to enter into the details of this experimental and clinical work. The conclusions to which these investigators had arrived can be summarized as follows:

Lobar pneumonia is an accident occurring in the course of a pneumococcic infection of the bronchial tree, and is due to the obstruction of a bronchus by viscid pneumococcic bronchial exudate. Pneumococcic infection of the bronchial tree is favored by a common cold, as shown by Dochez and his collaborators,

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and bronchial obstruction is facilitated by the edema of the bronchial mucosa, inflammatory or allergic present in these cases, and possibly by the inhibition of the defensive mechanism of the lung, especially of the ciliary movements of the ciliary epithelium. It is easy to visualize this edema when we consider how rapidly a similar edema produces closure of the nasal passages which are incomparably larger than the lumina of the bronchi. It was thus proven that bronchial obstruction of a lobar bronchus and consequently lobar localization of the disease becomes possible because of the high viscosity of pneumococcic sputum and the narrowing of the bronchi due to edema. On the other hand bronchial obstruction with pneumococcic sputum produces two phenomena, concurrent and synchronous in development but different in nature; on one hand pneumococcic cellulitis progressing from the hilum to the periphery; on the other hand atelectasis which is first visible in the periphery where the alveoli are more numerous. This explains that the shadow of lobar pneumonia is wedge-shaped with its base to the periphery, and that the so-called central pneumonia does not really exist. Ude (1931) has shown that "central pneumonia" is a misnomer and that medial shadows are in reality posterior "cone-shaped consolidations." Occasionally atelectasis may be present before clinical symptoms of pneumonia. In a number of cases opacity of the lung was accidentally found a few hours before the onset of chill (Pendegrass). Pneumococcic cellulitis spreads rapidly causing the exudation of serum and cellular infiltration of the alveoli and consolidation of the affected lobes. However the size of the alveoli remain always smaller than in the

healthy lobes, notwithstanding a generous allowance made for the vicarious dilation of the latter.

Once the obstruction is established the course of the disease depends upon the virulence of the pneumococcus and on the duration of the obstruction. The more virulent the variety of pneumococcus the greater is the amount of fibrin present in the bronchial exudate; therefore the obstruction is more liable to be of longer duration, the toxic phenomena more marked and bacteremia more frequent.

Thus lobar pneumonia is a local disease by its pulmonary focus and a general disease because of the passage of the bacilli and toxins into the blood, exactly as this occurs in other diseases such as acute appendicitis, cholecystitis, pyelitis or post-partum infection. As in these diseases the outcome depends upon the evolution of the focus of infection and upon the development of the general infection. Moreover there is a close interrelation between the evolution of the primary focus and of the general sepsis. Drainage of an infected gall bladder, removal of an infected appendix or drainage of an infected renal pelvis, generally brings about relief or septicemia and bacteremia. When drainage is large and complete the improvement of the general symptoms is rapid and a real crisis follows; on the contrary when drainage is insufficient the result is nil or the improvement is gradual and cure comes by lysis.

It is the opinion of the writer that the same rules are operative in pneumonia. When the obstruction of a large bronchus is removed and the content of the affected lobe is allowed to be discharged cure occurs by crisis. On the contrary when drainage takes place little by little the disease ends gradually and by lysis.

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Therefore in lobar pneumonia where a large bronchus is obstructed crisis is more frequent than in bronchopneumonia where numerous small bronchi are blocked and their successive opening is more protracted. In cases in which obstruction persists drainage and aeration of the affected lobe does not occur and consequently the duration of the disease is prolonged, giving what is known as unresolved pneumonia.

The release of the bronchial obstruction is brought about by the decrease of viscosity of the bronchial exudate. F. T. Lord and Opie have shown that this is produced by digestion of the fibrin caused by proteolytic ferments appearing early in the exudate and originated by the white cells. The tryptic action of these proteolytic enzymes is neutralized at the beginning of the disease by the autitryptic power of the serum; but as atelectasis progresses and circulation in the lung decreases, the autitryptic form of the serum is overcome and fibrolysis takes place. In our experiments the viscosity of sputum at the height of the disease, measured with the viscosimeter of Strauss, varied between 200 and 700 as compared to water, whereas at the crisis was hardly 0 to 60. This digestion of fibrin requires in vitro, when conditions similar to these existing in the lung are realized as nearly as possible, from 5 to 12 days. It seems that this fact gives us the solution of the mysterious occurrence of crisis between 5 and 12 days. On the other hand, with sputum poor in fibrin, as in infection with less virulent pneumococcus, drainage is apt to occur much earlier, which explains the so-called abortive forms of pneumonia. In these cases the evolution is identical to the evolution of postoperative atelectasis; conversely when the infecting pneumococcus in postoperative atelectasis is more virulent that usually the obstruction will be of longer duration, the clinical aspect of the patient more toxic; in these cases postoperative pneumonia is diagnosed, entailing, of course, a more severe prognosis.

A number of other important points were brought to light by this experimental and clinical investigation. At the beginning of atelectasis as of pneumonia, which is clinically designated as a period of engorgement, circulation both of blood and of lymph are still going on in the diseased lung. But as the disease progresses and atelectasis is completed both circulations are suppressed, and only the nutrient circulation persists in the diseased lobar assured by the bronchial arteries and veins. For the same reasons anoxemia is more marked in the periods of engorgement and red hepatization because circulation is still going on in the non aerated lobes; thus venous blood circulating in them is not oxygenated and pollutes the arterial blood of the left heart. Likewise bacterial discharge in the blood both by the circulating blood and by the lymph coming from these areas is more apt to occur during the phases of engorgement and red hepatization than in later stages. Therefore death is more apt to occur in these first periods of lobar pneumonia.

The only objections to the obstructive theory of lobar pneumonia formulated so far, were presented recently in the papers of Robertson, Terrel, Van Allen and Van Allen and Wu; these authors have studied pneumococcic pneumonia in the dog, produced by the bronchoscopic method of Coryllos and Birnbaum, slightly modified. They have confirmed the opinion

of Coryllos and Birnbaum, that the pneumonic lobes are smaller in size than the healthy ones, especially in inspiration. But they attributed this decrease in size to the "increased elasticity" of the diseased lung caused by the inflammatory thickening of the interlobular septa. Birnbaum and the writer have repeated the experiments of these authors and have submitted them to a most careful, impartial and pains taking verification. In a series of papers dealing with the Elasticity of the Lung, actually at press, Birnbaum and the writer express the contention that the decrease in the size of the diseased lung cannot, under any circumstances, be attributed to changes of the elasticity of the pulmonary parenchyma. This holds for other diseases as bronchiectasis, and tuberculosis. In fact the elastic properties of the lung depend upon the amount of elastic tissue present in the pulmonary parenchyma; this elastic element cannot be increased; on the contrary in all diseases of the lung, elasticity of the organ has always been found to be decreased as in all of them there is more or less marked destruction of the elastic tissue. In putrid abscesses although there is an excessive destruction of elastic tissue the diseased lung is always retracted.

Thus pneumonia, bronchopneumonia, postoperative pneumonia and atelectasis represent only varieties of the large group of morbid syndromes caused by bronchial obstruction. There can be no doubt that bronchial obstruction will come to be recognized as one of the most, if not the most important etiological factor in the pathogenesis of diseases of the lung. The writer believes that it is time to give to the pathologic physiology of the lung the place that has been allotted to the pathologic physiology of other organs as the heart, the pancreas, the kidneys, the adrenal or the hypophysis. As in the diseases of these organs morphologic changes cannot explain alone symptomatology and clinical course. Pathologic physiology will help us to better understand the correlation between cause and effect and also to establish their treatment upon more rational and more solid bases.

II. Treatment of Pneumonia: From the preceding discussion of the pathogenesis and pathologic physiology it follows that the treatment of lobar pneumonia should be directed against the pulmonary focus and against bacteremia.

It is obvious that the ideal treatment would be chemio-therapy or serotherapy with agents having a specific action upon pneumococcus. In the absence of such treatment care should be taken of the focus of infection, of the general sepsis and of anoxemia.

The treatment of the focus of infection should aim, as in any bronchial obstruction at the liberation of the obstructed bronchi with the objective of facilitating drainage of the affected lobe, of relieving retention of pneumococcic exudate and of insuring efficient aeration of the atelectatic lung. This treatment has been successful in cases of postoperative

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atelectasis; it was shown in these cases that even an incomplete liberation of the obstructed bronchus if it creates a narrow air-way allowing air to penetrate into the bronchus it was able to facilitate expectoration of the exudate and complete the release of the obstruction.

The third line of treatment aims at the transformation of incomplete atelectasis of the periods of engorgement and red hepatization to a complete apneumatosiis with the objective of shutting off the circulation of blood and lymph in and from the affected lung; thus anoxemia could be improved and the passage of microbes and their products into the circulation would be decreased or prevented. For that purpose pneumothorax was advised in 1921 by Friedman and has been more extensively used during the past 3 years.

In the study of the comparative value of these three methods of treatment no mention will be made of symptomatic or palliative treatment or of treatment of complications of lobar pneumonia.

Chemio-therapy with quinine and optochi (ethyl-hydrocuprein) gave great hope for a time. Morgenroth and Levy, Wright, Baldwin and Rhoades have shown the powerful bacteriocidal properties of these substances for pneumococcus. However its use for pneumonia did not give the results which were theoretically expected. The writer has used optochia as a preventive and curative agent in postoperative pneumonia without obtaining any appreciable results. It should be remembered that the so-called Aufrecht's quinine treatment of pneumonia by intramuscular injections is actually used in Germany, as the treat-

ment of choice in lobar pneumonia. According to Von Bergman it reduced the mortality by half, as proven in an investigation upon 300 cases (J. A. M. A letter from Berlin, 94-2082-1930).

The use of anti-pneumococcic vaccines has not been successful. The hope of producing active immunization has not materialized.

Specific sera, especially in pneumonia caused by pneumococcus type I have given encouraging results. However a careful study of the statistics so far reported shows that serum treatment has been much more efficient in cases with positive blood cultures than in cases with negative cultures. Rosenbluth in a special study of the prognosis and treatment of lobar pneumonia with positive blood culture, gave the following figures:

Mortality of type 1 with negative cultures treated	11%
Mortality of type 1 with negative cultures untreated	16%
Mortality of type 1 with positive cultures treated	39%
Mortality of type 1 with positive cultures untreated	81%

Bullowa reported similarity a verobality in treated cases 36% and in untreated cases, 81%; Cecil and Plummer gave similar figures. These statistics show clearly that in the cases without bacteremia serum treatment was relatively less effective and produced a decrease of mortality of 5% whereas in cases with bacteremia the decrease of mortality was 42%. Furthermore the incidence of bacteremia in fatal cases was 67%, whereas in non fatal cases it was only 19%.

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that is three times and a half greater.

The efficiency of the serum treatment decreases also very rapidly after the 3rd or 4th day following the onset of the disease. This fact is easily explained by the progressive decrease of circulation in the diseased lobes and the impossibility of the serum to penetrate into the consolidated areas.

Kline and Winternitz have already shown that dyes injected intravenously in animals with experimental pneumonia do not penetrate into the diseased parts of the lung.

It is not the intention of the writer to enter into a detailed discussion upon the value of serum treatment. This question is impossible to be discussed in a few words, especially with the actual multiplication of the types of pneumococcic and specific sera. It should be remembered, however, that even if serum treatment can do nothing more than control and check bacteremia it is certainly of great help in the treatment of pneumonia.

The local treatment of lobar pneumonia directed against the pulmonary focus of pneumococcic infection consists in bronchoscopic aspiration of the mucous occluding the bronchus of the affected lung, or in the artificial collapse of the diseased lung.

The writer has used bronchoscopic drainage in 9 non selected human cases of lobar pneumonia, in cooperation with Dr. Kernan at Bellevue Hospital on the Medical Service of Dr. Lambert and at New York Hospital, on the service of Dr. Conner. At the same time 14 cases were used as controls. The onset of the disease in all cases varied between 28 hours and 8 days; the age between 19 and 52, (average 39), in the treated cases and between 21 and 66, (average 39) in the untreated cases. In the treated cases the onset varied between 2 and 7 days. Three had pneumonias type 1, 2 type 2, one type 3 and 3 group 4. Three had positive blood cultures. Of the 9 cases 3 died, two of them with positive blood cultures, 33%.

Of the 14 non treated cases 6 were type 1, 4 type 2, 2 group IV and in 2 no typing was made. Of these cases 8 had negative cultures, 2 positive and in 3 the result of cultures was unknown. Of these cases 10 died and only 4 recovered, 71%.

Patients who died earlier than two days after admission were not taken as controls.

This work was carried out during the months of December, January and February, 1928, during which an unusually high mortality was observed in pneumonic patients at Bellevue Hospital.

The objective of this investigation was only to find out whether the bronchus corresponding to the affected lobes were obstructed or not and not for therapeutic purposes. In all cases the bronchi irrespectively to the consolidated areas were found obstructed. In early cases it was possible to relieve obstruction with a simple bronchoscopic aspiration. However, in every case there was a marked increase of expectoration following bronchoscopic aspiration.

None of these patients showed shock following bronchoscopy. The relation between increased expectoration, aeration of the affected lobes and crisis was striking in 4 of these cases. They were similar to the results obtained in the cases of postoperative atelectasis in which bronchoscopic drainage was applied. It is the impression of the writer that repeated bronchoscopic aspirations are necessary. At any rate

this mode of treatment deserves a more serious clinical trial by medical men interested in lobar pneumonia.

More recently artificial pneumothorax was applied in cases of unilateral lobar pneumonia and a number of enthusiastic reports have appeared lately in this country and abroad. This treatment was proposed by Friedman in Germany in 1921. Ibrahim and Duke of Stuttgart reported in 1928 the case of a 10 months old infant with pneumonia and high fever. At the 14th day of the disease spontaneous pneumothorax occurred and was followed by rapid recovery. They applied this treatment in 2 other cases; one was of 1½ and the other improved by this result ½ year of age infants in both they had good results. Later Coghlan (1932) and Li (1932) each reported 6 cases successfully treated. Blake more recently reported (1934) 20 cases treated with pneumothorax, on or before the 4th day of the disease. Eleven had a free pleural space and all recovered by crisis or lysis. In the remaining 9 cases pleural adhesions prevented adequate collapse. None of these cases died but the course of the disease did not seem to be influenced by pneumothorax.

In July, 1934, Behrend and Cowper reported 11 cases. Nine recovered and 2 died.

In January, 1935, Hines and Hennes reported the results obtained by this treatment in 12 cases with acute unilateral lobar pneumonia. Artificial crisis was obtained in 4 cases, and 5 others obtained symptomatic relief. Four died (33%); in two of them post-mortem revealed an early pneumonic focus on the opposite side.

Fifty cases have been reported in foreign countries up to October, 1934 (Myers) with 47 recoveries and 3 deaths.

Personally I had one case, followed by recovery. Liebermann and Leopold have studied the action of pneumothorax upon pneumonia experimentally produced on dogs (1934) and their results were in favor of this treatment. Out of 18 dogs treated with pneumothorax 15 recovered and 3 died, whereas out of 18 control dogs, which had no pneumothorax treatment only 5 recovered and 18 died.

The clinical and experimental data reported above seem to definitely solve the question in favor of pneumothorax treatment of lobar pneumonia.

However, in evaluating these results one must bear in mind that the cases chosen for that treatment were early and unilateral cases, which generally present the most favorable prognosis for any treatment or even for no treatment at all. The mortality in the 108 cases treated with pneumothorax reported above is about 9%. The question naturally arises what would have been the mortality without treatment.

On the other hand, Birnbaum and the writer have recently studied the effect of artificial pneumothorax upon dogs with experimental pneumonia. Their results were quite different from the results of Lieber-

R. W. HALL, M.D.

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mann and Leopold, although they have duplicated the technique of these authors. In their studies Birnbaum and Coryllos had used 40 dogs, of which 20 have had pneumothorax while 20 served as controls. It was found in this work, now at press, that the mortality closely paralleled the incidence of bacteremia regardless of whether pneumothorax was used or not. Pneumothorax was of little effect in the reduction of mortality rate.

This discrepancy in experimental findings shows the difficulty of the problem. Although theoretical consideration seems in favor of pneumothorax treatment we should, before passing judgment upon it, wait for the clinical test.

It seems reasonable however, to admit that this procedure in strictly unilateral cases is without great danger and that it relieves pleural pain by separating the parietal from the visceral pleurae. It is evident that in this way it renders possible deeper respiratory movements and better pulmonary ventilation.

The writer does not feel ready to answer the question whether artificial pneumothorax is able to complete a still incomplete atelectasis of a red-hepatized lung, and thus bring about a more marked decrease of circulation of blood and lymph in the diseased lobes, with the beneficial results already mentioned above. This question will be answered when it will be proven that a rapid disappearance of existing bacteremia in a large number of human cases has followed pneumothorax without distinction of the causative type of pneumococcus.

In closing only a few words will be said on oxy-

gen treatment of lobar pneumonia. This treatment is really a symptomatic one. It aims at the relief of anoxemia, which constitutes one of the most important symptoms and dangers of the disease. Anoxemia, rapid shallow breathing, acapnia, periodic breathing, fall of blood pressure, and increased anoxemia constitute a dangerous sequence; they form a vicious circle, which if left undisturbed, leads to anoxic fatigue of the respiratory center and death.

In O₂ treatment the importance of CO₂ in relieving acapnia and preventing washing out of CO₂ from the alveolar air and the blood should not be lost sight of. Excessive lowering of the partial tension of CO₂ gives rise to the Bohr phenomenon which renders the administration of oxygen quite useless.

In terminating this study on newer conceptions on pathogenesis and treatment of lobar pneumonia the writer wishes to acknowledge that, however solidly supported a number of the theories exposed may be, they are still under discussion. But if these theories can contribute in stimulating your interest in the fascinating aspects of the pathologic physiology of the pneumonic lung and in the potentialities of the latter in the elaboration of a still better and more efficient treatment, the writer will be fully rewarded.

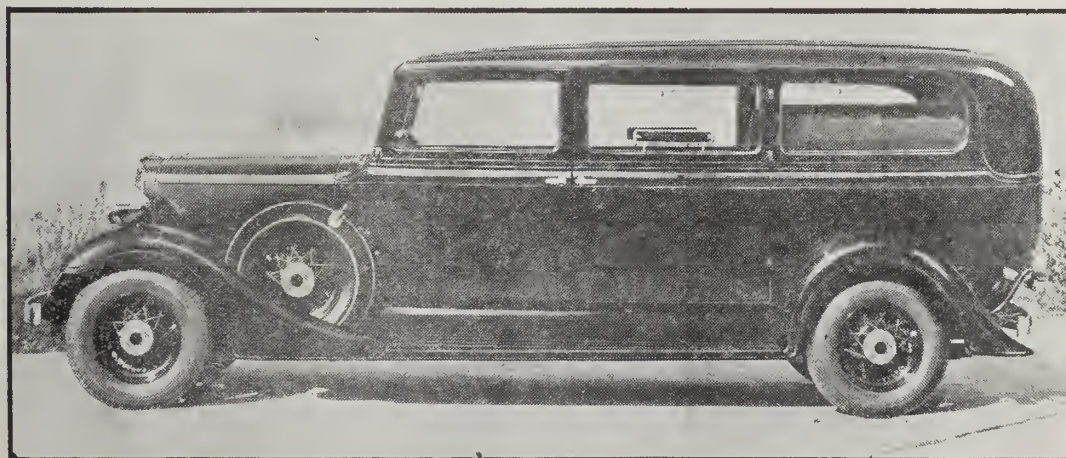
SUMMARY AND CONCLUSIONS

Lobar pneumonia in 90% of all cases is caused by pneumococcus and in 10% by pneumobacillus of Freidlander; both these micro-organisms produce tenacious and viscid sputum.

It was shown that contrary to the generally accepted opinion, pneumonic lobes are smaller in size,

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although heavier, than the healthy ones.

In unilateral pneumonia, as in atelectasis, although to a lesser degree, the chest corresponding to the diseased lung is flattened and the mediastinum and heart are displaced towards the affected side and the diaphragm is higher on the diseased side.

The theory was advanced and supported that lobar pneumonia is produced by the same mechanism as postoperative atelectasis and pneumonia, that is by obstruction of a large bronchus by the viscid and tenacious pneumococcic bronchial exudate. The theory of retraction of the diseased lung because of "increased elasticity" was not admitted. It was shown that the atelectatic theory, based on experimental and clinical evidence, explains a number of heretofore puzzling phenomena and features in lobar pneumonia. Such phenomena and features are: lobar distribution; crisis 5 and 12 days, independently of the presence or absence of antibodies; lobar localization of further extension of the disease; abortive forms or on the contrary delayed and unresolved forms leading to suppurative pneumonitis; fibrotic interstitial pneumonitis often leading to bronchiectasis.

Lobar pneumonia being a dual disease, local by its pulmonary focus and general by bacteremia, the treatment should be directed against both.

Chemio-therapy and sero-therapy are directed against both.

Bronchoscopic release of bronchial obstruction aims at the drainage and ventilation of the consolidated and atelectatic lung.

Artificial pneumothorax may be useful by relieving pain and excessive negative pressure, and perhaps by completing collapse and atelectasis of the diseased lungs, thus bringing about a more complete circulatory and lymphatic collapse. The latter may decrease the danger of bacteria and toxins being carried into the blood.

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THE SOUL OF THE SURGEON

RUDOLPH MATAS, M.D., LL.D., F.A.C.S.,
Tulane University, New Orleans, La.
Chief Surgeon, Touro Infirmary.

(Second Installment)

While this sombre group of so-called surgeons pursue their "black arts" in isolated and secluded corners, usually in the large metropolitan centers, there is a larger group of practitioners who reservedly commit themselves to the practice which, in the more elegant hellenic form of speech is known as "dichotomy," but in stronger Anglo-Saxon is better known by the familiar and unmistakable term of "fee-splitting"—i. e., the practice of dividing fees with the man who has called one in consultation, or to a surgical operation. Of this species, there are many varieties. A distinguished member of the profession—none other than Dr. John B. Murphy of Chicago—classifies the consultants, who buy their business by fee-splitting, as follows:

"1. Those who openly admit to the medical man that they will pay a large portion of the fee.

"2. Those who take the referring doctor into the side-room or alley and divide the fee with him.

"3. Those who permit the family doctor to collect the fee and pay him what portion he desires.

"4. Those who send the doctor, who referred the case, a check representing a considerable portion of the fee."

But, appalling as this classification seems to be, it no doubt only exhibits a few samples of the "57 varieties" of fee-splitters and bogus surgeons, who, under the cloak of an honorable profession, are nothing but a band of looters and outlawed camp followers. It is most disconcerting and mortifying to admit that the relaxation of the moral conscience—not only in medicine but in other liberal professions, in which intelligence, if not always intellect, is necessary for success—has been increasing instead of diminishing, with the advance and improvements in the life-saving methods of surgery.

This evil has grown so serious and menacing to the good name of surgery that a national organization known as the American College of Surgeons, of which I happen to be one of the officers and founders, was expressly organized to root out this growing and pernicious evil. Dr. John Chalmers Da Costa, whom I have already quoted, a genuinely great surgeon and one of the most vigorous and inspired spokesmen of the profession, puts this matter plainly before us when he writes:

"Such a procedure (fee-splitting) is worse than larceny, for robbing is larceny by force, and the patient is placed in such a position that he is compelled to pay beyond the operator's fee. The surgeon should make a fair charge for his services. Anything beyond this, is extortion. If he charges merely his regular fee, and then pays a commission out of it, he is bribing the family attendant to bring him a case; by the expectation of this bribe, he is tempted to select, not the man who, according to his judgment,

J. M. DORRIS, M.D., F.A.C.S.

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might be the best man in the case, but, rather, the one who would pay the highest commission. It is not only a humiliating and disagreeable business, but it is also a tempting one, particularly to the unthinking. Many a young man has done it for want of instruction as to its impropriety, and it is extremely easy to form the habit. He frequently gets into the habit innocently and does not come to realize how offensive it is to respectable members of the profession, just as it is quite likely that a polecat is not impressed with his own offensiveness. It is disgracing the profession, and puts it on a level with the broker and other tradesmen. The man who makes a custom of paying commissions has the effrontery of the confidence man, the skill of the pick-pocket, the conscience of a bank burglar." It is intensely offensive to the spirit that dominates and guides the conduct of the honest surgeon, as it is discordant with the rules of fair conduct among medical men, which are embodied in "the principles of Medical Ethics," to which every medical man has tacitly pledged his allegiance on entering the medical profession.

But this, unfortunately, is not the only blot. Dr. J. M. Finney, of Baltimore, another of Mississippi's honored sons, himself a knight "without fear and without reproach," speaking as President of the newly formed American College of Surgeons, thus expresses himself: "We surgeons realize only too well that we are but human, and that there are none of the frailties common to the race, but pertain to us. We are, all of us, if we are honest enough to admit it, conscious of the fact that we are continually, with the best intentions, committing errors of judgment, or of execution, or of both. It is hard enough at best, to avoid making mistakes, and no one is free from them, even after years of special preparation and study, to feel himself able to bear the grave responsibilities incident to and inseparable from our most arduous and exacting profession. If surgeons who, in spite of every safeguard known to science, and in spite of study and research, of wide reading, deep thought and constant observation of the work of the masters and of the best clinics, make occasional mistakes, what of those who, either through ignorance or in the hope of gain, without adequate preparation or proper qualifications, are recklessly and continually taking the lives of their fellows in their hands, with results too often disastrous to the health and life of those who trust themselves, often unwittingly, to their care. What of these? Again I ask, are we to sit quietly by when we know that this sort of thing is going on?

"The American College of Surgeons was organized with the express purpose of doing away with these very evils of which we have been speaking. The American College of Surgeons, of itself, is powerless to correct this lamentable state of affairs unless it has the hearty, united, and material support of all thoughtful surgeons. If every individual fellow of the college should make it his business, by every means in his power, to back up the efforts of this organization, to eliminate commercialism and graft, to raise the standard of morals, of ethics and of education in the profession, the time will not be far distant when surgery will have purged itself of some of the foulest blots that stain its past.

"We are not foolish enough to expect that the

millennium will come at once as the result of our efforts, but we have reasonable ground to hope and the right to expect that by our united efforts, and with a full consciousness of our own shortcomings, we can at least hasten the day we can look our accusers in the face and truthfully say, both as to individuals and as a profession: 'We have honestly tried to do our whole duty to eliminate from our ranks those who would dishonor and disgrace us, to elevate the standard of morality, of education and of ethics, to make our profession as nearly as possible like the ideal that every honest surgeon has pictured in his mind.'"

Dr. Charles A. L. Reed of Cincinnati, another distinguished surgeon and ex-president of the American Medical Association, and one of the most eloquent denunciators of the hidden evils that in recent years have been gnawing at the good repute of surgery, in speaking of the fee-splitting and allied evils, analyzes them with keen and penetrating insight and goes a step further into the causes of this ugly stain on our professional escutcheon.

"The fundamental cause of this evil will probably be found," he says, in a recent address, "in the fallibility of human nature. Something in a more positive sense may be set down against the all-pervading spirit of graft. The atmosphere, contaminated by 'Big Business,' through the noisome centers of politics, has obtunded and enervated the normal sensibilities of the body social. We see it from the servant who does our marketing, and the railroad officer who gets his on the side, to the banker who speculates

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the savings of the widow and the orphans. Lawyers of high repute tell me that the legal profession is honeycombed by the fee-splitting vice. This is revolting enough—this thing of selling our legal rights, selling justice itself, but is infinitely less revolting than the savings of the widow and the orphan. Lawyers clandestine commerce with human life as its commodity.

"Authors on criminology, statisticians, tell us that society in general has normally a certain proportion of moral defectives. The nearly 140,000 persons who comprise the medical profession cannot but have their fair proportion of this class. But in addition to these, the evidence would seem to indicate that we have more than our normal proportion. Such special consequences points to special causes.

Here are some of them. "Our per capita supply of physicians—one to every six hundred and fifty persons, is from three to six times greater than in England, France, Germany or Italy; but this is not all. By the action of the same over-crowded profession in teaching the people how to keep well, there is twenty-five per cent less work to do. Modern surgery is curing a lot of cases that were formerly permanent investments, yielding regular dividends to the medical profession. This has taken away another twenty-five per cent, making in all something like fifty per cent, from the physician's income—all within the last two and a half decades. These, too, relatively to the compensation exacted in other callings, relatively to the economic, not to mention the humane value of the services rendered, and relative to the high cost of living, the medical profession is today shockingly underpaid. So there is a bread and butter reason why some doctors try to 'gather gain' by some wiles not justified by honor. The parsimony of the public towards the medical profession is in large part responsible for this state of affairs. In the particular relation under consideration, these conditions generally become operative through both parties to the transaction. The medical attendant makes the diagnosis, assumes the responsibility of selecting the consultant, and expends time and money in going to a conference. This is extraordinary service that calls for extraordinary compensation. Every medical attendant should demand such extraordinary compensation; but too often he is a coward and fails to do so. If he does, it too often happens that the claim is not allowed by the penurious patient; then, in the absence of high ethical conceptions on both sides, the buying and selling begins—with the patient getting the short end of it. The people, who are vastly more interested in this question than the medical profession can possibly be, by thus declining to pay their just debt for honest service, are now awakened to the fact that, in increasing numbers, they are being quietly sold to offset their parsimony."

"The question of the hour is that of ethical quickening, ethical regeneration, not alone in the medical profession, but in other professions and in the whole social body, as well."

To go further into this phase of professional morals would take us too far away from the original purpose of this discussion. I have said more than enough, and have consumed far more time, in dealing with these evils, than they deserve, solely to show that the surgical profession is fully conscious of the presence of these defiling practices and of the foul

practitioners who have fastened themselves upon its clean body, like so many barnacles, to corrode it and clog its progress. Let us not forget that, throughout the ages, truth and falsehood have traveled side by side; good and evil, honesty and dishonesty; virtue and sin; innocence and guilt—and so have the charlatan and the impostor, from the dawn of civilization to the present time, flourished at the expense of the good name, not only of medicine, but of the law, of the ministry, and of every other organized profession, trade or avocation.

Charlatanism, like all other forms of parasitism, has always existed. The outward forms of the parasite—has morphology—have changed with different ages, climes and peoples—and, in this, it has simply followed the laws of adaptation to environment that characterize all other forms of parasitic life. The externals change, but the biologic instincts, the symbiotic habits, and the vampirism of the parasite remain the same.

Let us not then, confuse the parasite with the host. Let us not mistake the false for the genuine. The impostor in surgery is a soulless individual and, as such, he has no place in a discussion on the Soul of the Surgeon—except to repudiate him as counterfeit or false coin.

* * * *

But apart from the question of quackery and dishonesty which have distorted the vision of the honest and conscientious surgeon in the public eye, there are other reasons, no doubt, why the public still entertains some erroneous notions as to his character and ideals.

In spite of our modernity or up-to-dateness, we still live in an atmosphere which has not been depurated of all the sombre traditions which hang around the memory of practitioners of surgery of past generations. The popular idea of a surgeon still prevails in many quarters, that he is an individual who, from the very nature of his calling, is either unfeeling or cruel, if not actually brutal. At best, many believe that he is a man of callous heart and indifferent sensibilities. It is evident that our surgical ancestors had to be possessed of a singular self-control, and iron will, to have been able to wage, day after day, that fearful, almost savage, struggle to wrest man from disease—that was dignified by the name of operation; when the conscious patient was often held down by force while the surgeon with lightning strokes, accomplished his task, swept away great masses of disease, and dismembered the body with the velocity of a cyclone. No wonder that, in the long night that preceded the dawn of anesthesia, that the surgeon was at a premium, and stood highest in the esteem of his fellows, who did his work most expeditiously. No wonder that the operations of surgery were indeed limited and largely circumscribed to the gross manifestations or results of injury and disease, and where tolerated until they became absolutely in-

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compatible with life; and then, only when the diseased parts were to be cast away, like so many excrescences, without regard to mutilation. Even then, life was often sacrificed in the scramble to escape from the indescribable agony of the unfortunate victim. What a vast sum of suffering is embodied in a solitary example, when we read the statement that, after a single battle in the Russian campaign, Dominique Larrey, Napoleon's great surgeon, performed no less than two hundred amputations, at a time when there were no other anesthetics outside of opium and alcohol.

It was not until 1846 and 1847 that the discovery of anesthesia robbed operations of the terrors of agonizing pain. "Quick, slap-dash surgery," a necessity before the days of anesthesia, then gave way to delicate, painstaking, artistic surgery; but, even then, great progress could not be accomplished, as even the most artistic work of the surgeon was doomed to failure, in consequence of the train of evils that followed fatally in the wake of his wounds. It was not until thirty years after, "scarcely half a century ago, that antiseptic surgery relieved patients from the terrors of death and gave to the surgeon restful nights and joyous days."

But think of the conditions that prevailed in earlier periods. In the fourteenth century, when all gunshot wounds and wounds touched with powder, were thought to be envenomed and had to be literally cooked in boiling oil as the only antidote! Of the fearful torture of staunching hemorrhage in amputations, for example, when the actual cautery, the red hot iron, was the only means known to check the spurting flood of blood. No wonder that, when that grand old barber-surgeon, Ambrose Pare appeared upon the scene in 1537 and discovered by chance that gunshot wounds were not poisoned wounds and that boiling oil was not good for them, and with a single bit of good sense demolished all past traditions—he became, at once, one of the greatest benefactors of the race. And what wonder, when a few years later, in 1552, he discovered that bleeding vessels could be tied and that the red hot iron was no longer necessary to arrest hemorrhage, he should have believed himself inspired by God to be His agent for the relief of his suffering fellows! It has been well said that "Prometheus, who brought fire to suffering mortals, is not be compared with this good surgeon, who took it away from them."

But Pare was not only a great benefactor of the race, through the beneficent transformation in the practice of surgery that he wrought by his epochal discoveries, but he has left us an immense legacy in the vindication of the profession of his time against the charges, or suspicion even, of cruelty and heartlessness, by the record of his splendid life. For his career teaches us that in spite of the coarse, horrible and terrifying conditions under which surgery was practiced, not only on the battlefield, but in peaceful life, at the close of the middle ages, that he,—the most renowned and greatest surgeon of his day—towered far above his surroundings and above the barbarities of his period. He never lost his human sympathy, his love of his patients, his unsleeping interest in their welfare: "Je le pensay et Dieu le guerit," "I dressed him and God healed him," were his pious words at the end of what were, at that time, won-

derful cures. But how resplendent he appears to us with the halo of brotherly love, the incarnation of human kindness, this simple and good surgeon, in the last years of his life. Here is the picture which is given us of him by Pierre de l'Estoile:

"In 1590, after the battle of Ivry, came the siege of Paris. It began in May, by the end of August, the poor were dying like flies and the dead were lying in the streets; the agony of that siege, and the fury of the league, under the iron rule of the archbishop of Lyon, belong to history. Pare, eighty years old and with only four months to live, was still afoot in the hot streets among the starving crowd. His practice, you may be sure, had left him, and had gone to Antoine Portail and other surgeons. His grand patients, Catherine de Medicis, the king, the Guises, were dead. Suddenly, close to his own house, he came face to face with the archbishop of Lyon: either by chance or of set purpose to speak his mind to him. 'I remember,' says Pierre de l'Estoile, 'about eight or ten days, at most, before the siege was raised, Monseigneur the Archbishop crossed over the end of the Pont St. Michel, when he had his way blocked by a crowd of those who were dying of hunger; they cried out to him, begging for bread or for death; he, not knowing what to say to them, Master Ambroise Pare meets him, and says to him in a loud voice, "Monseigneur, these poor people, whom you see here around you, are dying of the cruel pains of famine, and they ask pity of you. For God's sake, Monsieur, have pity on them, if you want God to have pity on you: think a little of

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the high place to which God has called you, and how the cry of these poor men and women goes up to heaven and is a warning sent you by God to remind you of the duties of your office, to which you have to answer to Him. Therefore, by that office, and by the power which we all know that you have, bring about peace for us, and give us a way of living; for the poor can no longer help themselves. Do you not see that all Paris is dying, thanks to the wicked men who wish to prevent peace, which is the special work of God. Set all your strength against them: take in hand the cause of this poor afflicted people, and God will bless you and repay you.' Monseigneur the archbishop said nothing, or next to nothing, only, he was patient to hear him to the end and not interrupt him, which was not his usual way. And, afterward, he said that the good man had fairly astonished him: and, again, that this was not the sort of politics he was used to hear talked, and that Master Ambroise Pare had waked him up, and made him think of many things." Four months later, Pierre de l'Estoile writes: 'On Thursday, December the 20th, the eve of St. Thomas, at Paris, in his own house, died Master Ambroise Pare, the king's surgeon, 80 years old; a learned man, and the chief of all surgeons, who even against the times, all his life talked and spoke openly for peace and for the people: which made him as much beloved by the good as he was opposed and hated by the wicked.'

And to close with the past, how about this fragment of the wisdom, the purity, the humanity and the conscience of a medieval surgeon, who lived long before Pare, in the very heart of the dark ages: who wrote a great treatise on surgery,—which was the guide and inspiration and the oracle of the surgeons of his time. I refer to the injunctions laid down for the guidance of those who would follow surgery as a profession, and which are given prominence in the introduction to his *Grande Chirurgie*, by Guy de Chauliac, the renowned master surgeon of Montpellier. In this extraordinary book, which was published in 1363, nearly two centuries before Pare had attained celebrity, Guy states, among other "Premises, which are most necessary for whoever should intend to profit by the art of surgery," what he regards as the qualifications necessary for its successful practice. This admonishes Guy de Chauliac: "Let the surgeon be well educated, skillful, ready, and courteous. Let him be bold in those things that are safe; fearful in those that are dangerous, avoiding all evil methods and practices. Let him be tender with the sick, honorable to men of his profession, wise in his predictions; chaste, sober, pitiful, merciful; not covetous nor extortionate; but rather let him take his wages in moderation, according to his work, and the wealth of his patient, and the issue of the disease, and his own worth."

This was the creed of a surgeon, who taught and practiced his profession five hundred and fifty-two years ago. These were the doctrines which he sought to inculcate into the minds of his pupils. What code could embody wiser and more humane counsels for the benefit of the followers of the art, in any age, past or present?

What we learn by the writings and the teachings of Guy de Chauliac, Ambroise Pare and their con-

temporaries, their predecessors and successors, is, that the Soul of the true Surgeon has remained ever faithful and quick to the call of pain and of humanity, and that the harsh friction incident to his calling, has never, throughout the ages, touched or tarnished the purity of the surgeon's motive.

* * * *

At the present time, today, the conditions under which surgery is practised are no longer those which prevailed one hundred or even fifty years ago. Undoubtedly, a certain physical indifference, a cool, calm, deliberate exterior, is a necessary quality in the presence of blood and danger. But this necessary attitude of the surgeon should not be wrongly interpreted not exaggerated. Modern surgery is only on extraordinary occasions, accompanied by the terrifying and dramatic associations of the past. Anesthesia, or analgesia, whether local or general, by suppressing pain, consciousness and fear, has banished from the operative act the gruesome features that, in the days of our forefathers, gave it its chief horror and fearfulness. The visible suffering, the agonized cries of the patient, as he felt the thrust of the keen knife in an amputation, the audible sawing of the bone, and other forbidding details, are unknown today. There is practically no case at the present time, in which surgical intervention must be performed, in which we would deny the patient the sovereign and blessed balm of his sufferings that is offered by the host of agents which abolish consciousness or pain.

They are in error, and know little of the surgeon's mental attitude towards his fellows, who would interpret a calm and unemotional exterior as an evidence of disregard of suffering or indifference to human life; or who believe that the practice of surgery suppresses, in the hearts of those who exercise it, all the gentler qualities of sympathy and finer sensibility. (Michaut, Forgue, Faure).

We, men of the art, well know, on the contrary, that nothing cultivates the noblest human and humane qualities, nothing exalts the sense of pity, sympathy and charity more than a profound knowledge of the causes and of the consequences of the processes of disease; nothing more, than the constant contact with suffering and distress by those whose training has taught them to gauge these in a manner far more subtle and accurate than is given to the ordinary well meaning, but purely sentimental, observer. (Faure).

In any event, insensibility or callousness is no longer a "necessary virtue" in the surgeon of today.

It suffices that one should not be afraid of his task. There is no need, as many believe, that the aspirant to surgical success should be possessed, if not of the "lust for blood," at least of "indifference to blood." There is still less place for cruelty. It is no longer a recommendation for the youth who would aspire to surgery, to boast that he was never made sick nor faint by the sight of blood. Today, some of the most renowned and successful surgeons will tell you that, in the beginning of their careers, the first operation that they witnessed, even when not accompanied by blood, created in them a revulsion of feeling towards surgery, which it took many repetitions of the experience to overcome.

(To be continued)

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Disease In the Aged

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Introduction. Disease in old age differs in many ways from disease in other periods of life; the incidence of the various disease processes is not the same as in childhood nor in middle age; the symptoms of a disease in the aged may vary considerably from the so-called classical picture of that disease. Similarly the prognosis is not the same, and our treatment of disease in the old must often be modified from our usual procedure and the inevitably limited goal of treatment in the aged must always be admitted.

These differences, inherent to the aging organism, are the basis upon which the science of geriatrics rests in exactly the same manner as pediatrics is concerned with the peculiarities and potentialities of the growing child.

Geriatrics is concerned with the prolongation of life, with the maintenance of physical and mental health, the relief of suffering, the lessening of the handicaps of age and the diagnosis and treatment of such diseases as occur. These are worthy aims and one need not apologize for an interest in geriatrics. Obviously it lacks some of the appeal of pediatrics for it deals with the body in involution not in evolution. Yet it is an important subject with an increasing field of usefulness as more and more of the population are surviving past middle age. One might facetiously claim that of the two it is geriatrics which is the growing science while the falling birth rate threatens pediatrics.

Of course, no one in their right mind would belittle the achievements or value of pediatrics but there are some who see nothing in geriatrics but a futile effort to temporize with death. It is especially the young of our profession who fail to appreciate the possibilities of geriatrics. Perhaps they should not be blamed for to youth the old seem so very old that there must be but little to do or to hope. In this they are wrong for most amazing and gratifying results are often obtained by medical skill and geriatric understanding even in the face of age and serious illness. Many an old person has defied a pessimistic prognosis and been spared for years of usefulness to the community and family.

But one must not think of geriatrics as being concerned only with longevity. Health is more important in the aged than a few more years of life. Many works on geriatrics devote far too much space to recording famous instances of longevity—most of which unfortunately are fallacious. Thus, for example, it has been shown that the supposed longevity of the famous Countess of Desmond was due to the error of counting from the birth of one Countess to the death of her daughter of the same name. And also the 152 years of Thomas Parr have been disproved and his claim to have lived under ten English sovereigns. It was, however, the great William Harvey, discoverer of the circulation, who performed the autopsy on Thomas Parr and accepted his 152 years in his printed report of examination.

Geriatrics is a help to longevity, but longevity is

not its whole or primary interest. As a field of medicine it should be chiefly concerned with the diseases encountered in the aged and it is to this much neglected topic that we turn our attention today.

Changes of Senescence. It has often been said that old age is itself a disease but this is not true and one must distinguish between normal physiologic old age which is called senescence and abnormal pathologic old age which is by some termed senility. The drawing of a line between the two is not easy for the physiologic changes tend to resemble and approach the pathologic processes common in the aged. The distinction is, however, of the utmost importance in both diagnosis and treatment.

In order to draw this distinction we must first be familiar with the physiologic changes appropriate to the age of our patient. These form a sort of base line; we accept them as our patient's normal even though the findings be very much altered from those in the younger subject. In the diagnosis of disease in the old we must ignore physiologic changes which might have great diagnostic significance if present in a middle aged patient. And in the treatment of disease in the aged we must keep constantly in mind what is the physiologic state of our patient, and we must admit that our therapeutic goal is limited to the cure of the existing disease and to the restoration of our patient to a state proper to his years. To this point we will have to return later.

The changes of senescence are familiar to us all—but we must in the present connection comment on a few of them.

There is no need to mention graying of the hair except to say that it often occurs in quite young persons, especially in certain families with coarse black hair. As long ago as 1638 Francis Bacon wrote "Hasty gray hairs, without baldness, is a token of long time: contrarily if they be accompanied with baldness."

Similarly the well-known arcus senilis may occur even before middle age. Often this lipid deposit may encircle the whole iris but it can never be employed as an evidence of great age nor of disease. It is an interesting fact that Nascher the author of one of the most famous works on geriatrics had an arcus senilis even as a young man; one cannot help wondering whether it was this precocious arcus which directed his life interest to the changes and diseases of old age.

The skeleton, on the other hand, does show changes which increase with advancing years. The most constant is an atrophic thinning of the intervertebral discs which accounts for much of the

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bowing of the spine. The vertebral column becomes curved and shorter resulting in a loss of an inch or two in height. This forward bowing of the spine changes the shape and size of the thoracic cage and contributes in this way to the development of so-called senile or postural emphysema. The long bones and the larger flat bones become weakened from osteoporosis and approach the picture of Paget's disease. Many of the cartilages atrophy and become calcified.

All lymphoid tissue throughout the body atrophies as age advances. The tonsils exhibit this change even before the age of forty; the lymph nodes are markedly atrophied in the old. As a rule the thymus has almost disappeared—but it may sometimes be preserved. No effect of this lymph tissue atrophy can, however, be recognized in the number of lymphocytes in the circulating blood.

Almost all the organs atrophy and in the case of those whose function can be measured some reduction in functional ability is the rule. In those over seventy years of age the kidneys constantly exhibit atrophy and the usual tests of renal function reveal some impairment in almost 90 per cent of cases (1). It is the phenolsulphonaphthalein elimination test which most often gives abnormal results.

The thyroid is atrophied and the basal metabolic rate is usually lowered. The acid glands of the stomach are less evident and an anacidity is present in fully two-thirds of the very old. The spleen, adrenals and liver become smaller especially the liver which may be reduced to half its normal adult weight. We have no satisfactory evidence that any of various functions of the liver are definitely impaired although it is true that in the aged the sugar tolerance test very often reveals a curve suggesting a marked storage defect.

The lungs so constantly reveal emphysema that this state must be accepted as physiologic in the aged. Whether it results from the postural changes due to spinal curvature, or from simple atrophy of elastic tissue, it is apparently very different from the obstructive emphysema of youth and middle age. With the progress of emphysema and the weakening of the muscles of respiration the vital capacity decreases. On the average there is a loss of about 600 c.cm. as one ages from 60 to 90 years; males losing more in proportion to their higher initial level. (2)

The heart is an exception to the general tendency to atrophy—its weight may maintain its relation to body weight unchanged. In the old the pulse rate tends to settle to about 60 per minute; the blood pressure often rises until the age of seventy but then lowers or remains stationary.

It is true that changes do occur in the aorta and larger arteries with great frequency but these changes are of a special kind and must not be confused with true arteriosclerosis which is always pathologic. The arterial changes of senescence affect the media of the vessel wall—first as a degeneration and finally as a calcification. The result bears the name of Monckeberg's sclerosis and although it greatly alters the artery to palpation giving it the so-called "bird's trachea" feel, the process causes little or no impairment of circulation. Nor does the lengthening of the

aorta or the calcified plaques so commonly revealed in the aortic arch by X-ray of the aged subject. Some capillary beds are greatly lessened in the old—especially perhaps in the skin giving rise to the deceptive "patriarchal pallor" which leads us into a mistaken diagnosis of anemia. By and large, the circulation of the very old is amazingly good; their electrocardiographs exhibit no constant abnormality and their tendency to heart disease is not great.

I hope by this time, I have made it clear that one must know the normal of the aged in order to recognize the pathologic and to diagnose disease. Let me drive home my point by reference to one more organ or system.

The brain in the old becomes smaller and increasingly firm; the meninges are often adherent and areas of calcification are common. The functional changes are only too well known—merging from mere forgetfulness as one reaches one's anecdotage into the definitely pathologic states of senile dementia. More important for neurologic diagnosis perhaps are some of the changes which normally take place in the reflexes and sensation of the aging person.

For example, the tendon jerks lessen and even disappear—the Achilles reflex being the first to be lost; only late is the knee jerk ever absent. The abdominal reflex tends to be lost rather early in senescence—but the plantar reflex persists. Loss of vibratory sensation especially in the lower extremities commences even as early as fifty and is often markedly impaired by the middle sixties. Sense of position is also impaired and there may be some diminution

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in perception of touch and pain. The pupil of the old is small unless cataract is present and recognition of contraction to light may be difficult. The senile tremor of the aged has a rate of about 100 per minute and is not by any means to be confused with true Parkinsonism.

Finally, it is worthy of note that some loss of weight seems normal for the aged. At least five to ten pounds is apt to be lost after the age of sixty without there being any recognizable pathologic cause. One cannot help wondering whether this change and perhaps some of the others already enumerated may not be beneficial to the aging organisms. It would be easy to argue that the loss of weight, the lower metabolism, the slower and less violent muscular movements, the diminution of sex function all tend to lessen the demands made upon the heart and circulation. It is enough for our thesis today, however, if we accept these changes as physiologic and distinguish them from the truly pathologic processes which occur.

Precocious or Exaggerated Senescence. We have now hastily touched on some of the changes which characterize normal old age and we are ready to proceed to the diseases of old age. But before we do so we should pause long enough to mention the fact that sometimes the changes which we consider normal in the aged occur so prematurely or in such exaggerated degree that one is bound to class them as pathologic rather than physiologic.

Some instances of this sort seem to have no discoverable cause—they seem to represent a true simple aging process occurring too soon or too rapidly. In other cases a definite pathology can be recognized as for example in Simmonds pituitary cachexia in which many of the appearances of old age may develop in a young person as a result of disease of the hypophysis.

Cutaneous geromorphism is a similar process limited to the skin and in our present day knowledge, is unexplained. Progeria is defined as premature old age dependent upon some developmental fault. Neither of these need delay us and we can proceed to consider in detail the diseases of old age, and the characteristics of disease in old age.

Disease of Old Age. An attempt has often been made to divide the diseases seen in old age into two groups, one containing those ailments which occur as a rule only in the aged; the other those found in younger age groups as well. Such a division is of necessity somewhat arbitrary and inaccurate.

The famous French neurologist Charcot named as the characteristic diseases of age—senile marasmus, senile osteomalacia, atrophy of the brain, and circulatory weakness from heart weakness and arteriosclerosis. You will see that these changes include several which we have classed as physiologic.

Lewellys F. Barker includes Paget's deforming osteitis, osteoporosis, malum coxae senilis, senile anorrexia, diverticula of the esophagus and intestine, coproliths, bronchial catarrh, emphysema, prostatic hypertrophy, cerebral atherosclerosis, senile dementia, paralysis agitans (non-encephalitic) and hyperkeratoses. Again we find listed as diseases some changes which I have preferred to put among the physiologic changes of senescence.

Let us avoid becoming involved in this attempt to name a few diseases peculiar to old age and let us

consider the various systems of the body and their disorders as these appeal in the aged.

Diseases of the Digestive Tract. We have already noted that the aged are apt to lose weight, to have little appetite and to lack gastric secretion of acid—all of these without organic disease. This must not, however, lead us to overlook the frequent instances in which the aged do develop lesions of the digestive tract.

In the esophagus of the old pressure diverticula are quite common; these are the pressure type and result from an actual herniation of the mucous membrane through the weakened muscular coats. They are apt to occur at one of two points, either where the esophagus is narrowed as it is crossed by the left bronchus or higher where the esophagus and pharynx join. Difficulty in swallowing may be a symptom and one must not confuse this with the more or less physiologic slowing of the act of deglutition which can be demonstrated by X-ray in the aged. Cases of diverticula are not rare from the age of seventy on.

The stomach is a frequent seat of carcinoma in the aged and like many diseases at this time of life the process may be amazingly latent. There may be few symptoms and these few are apt to be explained away as due to the patient's age. Vomiting may not occur and pain is often wholly absent.

Ulcer of the stomach, on the other hand, is increasingly rare as age increases but a recent case reported by Cheney and Garland (3) exhibited a definite ulcer of the posterior wall of the stomach in a patient 96 years of age; there was no sign of malignancy.

Acute appendicitis used to be thought to be rare in the old but a number of excellent reports (4) (5) force us to admit its fairly common occurrence in the seventies and even occasionally in the eighties. The picture differs in certain important features from acute appendicitis of earlier age periods. The onset is usually less acute; there is less pain, less fever, less vomiting. Fever may be absent, the pulse not

W. LIKELY SIMPSON, M.D.

Eye, Ear, Nose, Throat and Bronchoscopy
512 Physicians and Surgeons Building
(Baptist Hospital Annex)
Memphis, Tenn.

SHIELDS ABERNATHY, M.D., F.A.C.S.

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over 100, the leucocyte count not over 15,000. As a rule the diagnosis is delayed under the belief that one is dealing with some form of partial intestinal obstruction. This diagnostic error seems to be difficult to avoid. When peritonitis develops the pus is apt to be scanty and greasy. Correct diagnosis is important for the treatment even in the very old treatment by surgery is remarkably successful.

True intestinal obstruction also occurs frequently in the aged, from various causes. Occasionally the obstruction is found to be due to a gall stone which has silently ulcerated its way from the gall bladder into the bowel. Doctor Ravdin operated upon such a case for us at the University Hospital a few years ago. The stone could be felt through the 74 year old woman's emaciated abdominal wall. Corporoliths also may lead to obstruction, and in lesser degree fecal accumulation in the lower bowel may increase the habitual constipation of the elderly and occasionally give rise to periods of irritative diarrhoea. In passing it is worthy of note that the first mention of the use of mineral oil for constipation was by John Floyer in 1724 in a work entitled "The Gallenic Art of Preserving Old Men's Healths."

Diverticulitis of the descended occurs in the old—predisposed to by the long standing constipation. The picture which results may be imagined from the name given to the condition—"the left-sided appendicitis of the elderly." I once received a great deal of undeserved credit for a diagnosis of "diverticulitis" in an old man. I explained, as I thought, that the condition was often called "the left-sided appendicitis of the elderly." At operation, a left-sided localization of an appendiceal abscess was found and I was credited falsely with having suspected this very rare condition. A more serious mistake can easily be made for the mass of thickened bowel, diverticula and plastic peritonitis may resemble even at operation a malignant process and perhaps be thought to be inoperable.

In the biliary system of the aged one finds hepatic cirrhosis not infrequently in the seventh decade of life and at all advanced ages gall stones are common. Fortunately, for the patient, colic is rare and the stone may pass down the duct or ulcerate into the bowel with little or no pain. Turner (6) operated upon a man of 81 for obstruction of the bowel. The obstruction was found in the transverse colon and was due to what is claimed to be the largest gall stone on record—weight 5 ounces, length 3 inches, width $2\frac{1}{4}$ inches. The patient recovered. After this story we may go on to another system.

Diseases of the Genito-Urinary System. In this field there are two topics of main interest—kidney failure and prostatic hypertrophy and these two are often associated. With regard to kidney disease in old age we have already noted that tests of kidney function, especially the 'phthalein elimination test, frequently show some impairment without any indication of serious or progressive renal pathology. We may now add that true nephritis is not a common disease after seventy. Those individuals who have suffered progressive glomerular nephritis in middle age have usually dropped out of the race before this age is reached. Acute glomerular nephritis is rare, and both acute and chronic nephrosis very infrequent.

On the other hand, some degree of nephrosclerosis

or arteriosclerosis of the kidney is a very common finding at autopsy in the elderly. It is seldom the cause of death and the full picture of kidney failure from this cause is not common. Probably the situation is analogous to that regarding other arteries of the body; unless the arteries are good the individual does not survive into old age. For statistical purposes it is difficult to draw the line between the arterial changes almost physiologic for old age and those of minor pathologic degree.

Kidney impairment from back pressure due obstruction by an hypertrophied prostate is far more frequent in geriatric practice than true nephritis or serious nephrosclerosis.

From whatever cause it arises a slight degree of nitrogen retention in the blood is frequent in the elderly by high azotemia and the classic picture of uremia are uncommon. Also true renal edema rarely, if ever occurs in the aged. Usually there is a big cardiac element present and the cardiac failure overshadows the renal failure. Often the picture is confused—but seldom is the clinical picture or the underlying process that of a true chronic nephritis (7).

Prostatic hypertrophy is so common as we pass the sixties into the seventies that one could readily include it in the list of changes physiologic to senescence. But certainly it is hard to draw the line as one progresses by imperceptible graduations from the patient with a symptomless enlargement to the one with the full blown picture of obstructive "prostatism" with renal damage, raised blood pressure and nitrogen retention. We need only remind ourselves of the rarity of true nephritis in the elderly male and the frequency of what may be called an obstructive nephropathy to make the resolution never to make the former diagnosis until we have excluded the latter. Digital examination by rectum is not sufficient for a median bar may cause great obstruction even without much general enlargement of the prostatic gland. Nor should we neglect the possibility of prostatic obstruction at any age—for it may first cause trouble in the eighties and may be operated upon successfully even in the nineties.

Diseases of the Lungs. We have mentioned the emphysema and loss of vital capacity which always occur in age and sometimes the emphysema becomes of such grade as to deserve to be termed pathological. The other diseases of the lungs which deserve to be mentioned are chronic bronchitis, tuberculosis and pneumonia.

Chronic bronchitis often termed "senile catarrh" is an extremely frequent malady of the old—so much so that few escape the annoyance of the resulting cough, expectoration and dyspnoea. At times the fibrosis and dilatations of the bronchioles lead to bronchiectasis and in many instances some degree of congestion from weakening circulation further interferes with respiratory function. Cyanosis from these combined factors is a common symptom in the

D. H. ANTHONY, M.D., F.A.C.S.

Eye, Ear, Nose & Throat

1720 Exchange Bldg.

Memphis, Tenn.

elderly.

Tuberculosis of the lungs at advanced age is not as rare as one might anticipate. Many authors have emphasized this and the great Laennec recorded the finding of pulmonary tuberculosis at the autopsy of an almost hundred year old individual. Some have even claimed that more old than young persons die from tuberculosis, but this is by no means an accepted fact. Much of the evidence is old and possibly open to question. Schlesinger (8) in his extensive work on Diseases of Old Age, emphasizes the importance of nutritional disorders, diabetes, influenza and trauma as favoring the breaking out of a latent or almost healed chronic lesion.

The X-ray evidence of pulmonary tuberculosis in the elderly may be simulated by the fibrotic lung changes so characteristic of old age and this modern method of diagnosis may also lead us into error.. (9)

Pneumonia usually of the lobular or bronchopneumonic form is very common in the old and is frequently fatal. True croupous lobar pneumonia does occur even at advanced age but bronchopneumonia is at least five times as common. The clinical picture in the aged may differ sharply from that in a robust individual of middle age. Indeed the symptoms may be so few that an octogenarian may seem to die of myocardial failure and the discovery of an extensive pneumonia at autopsy comes as a distinct shock. Cough, fever and expectoration may all be absent and there may be little or no leucocytosis and no pleuritic pain. Also the emphysema may help hide the consolidation on physical examination and one may attribute the rales to bronchitis and passive congestion.

Possibly some of the lack of symptoms of infection may be explained if it is true that many instances of senile pneumonia commence with a local thrombosis rather than with a true pneumococcus infection.

Pneumonia has been called by Osler "the old man's friend" because it offers a short and often peaceful final step—but by no means are all cases of pneumonia fatal even in the very old. Parkes-Weber (10), the well-known British clinician, has recently reported recovery from acute pleuropneumonia at 85 and refers to recovery in a patient of 103 who, however, developed a fatal gangrene of the foot during convalescence.

Certain of the characteristics of acute infections in the aged need to be mentioned.

Acute Infections. It is generally said that except for pneumonia, influenza and erysipelas, acute infections are rare in the aged. This is statistically true—but other infections do occur and because unexpected are often overlooked or misdiagnosed. Even the so-called "childhood diseases" may occur late in life. Hard to avoid jole or diseases of childhood. Rolleston (11) has reported chickenpox at 64 and at 76 although Van Genser found no patient over 65 among almost 30,000 cases. Measles at 71 with recovery was recently recorded. (2) And so on with other such diseases.

There is one disease common in youth which shows no mercy to the aged. This is whooping cough. Many cases over 70 and not a few over 80 are on record—while Sir William Jenner of vaccination fame was attacked when over 65 years of age. Often

the patient may give a history of an attack in childhood but this does not prevent the illness being severe and exhausting even to a fatal outcome. It has been emphasized (3) that it is not safe for the old to have contact with cases of whooping cough for any earlier immunity may have been lost and the disease is far more serious to the old than to younger adults. The grandmother is often called in to mind the child with whooping cough in the erroneous belief that such an old lady will be immune.

Pneumonia we have discussed; influenza does not differ much from the picture in earlier life; but concerning erysipelas it is worth pointing out that its frequency in the aged reflects the poor nutrition of their skin as is also evidenced by the frequency of itching eczema; keratoses and excoriations. Like senile pneumonia erysipelas may cause little fever and no leucocytosis, but may initiate acute pyogenic infection of the kidney of serious import. Syphilis is not a frequent cause of death or disease in the aged. Its manifestations may occasionally first appear at the time but not as a rule.

Incidentally, it may be noted that herpes zoster in the aged is apt to leave behind it persistent local pains. Also in the aged gangrene of the skin may follow very minor injury.

Finally with regard to all acute infections in advanced age, it may be said that circulatory collapse may occur early, respiratory complications are common; delirium is frequent, but fever, leucocytosis and splenic enlargement often fail to appear.

Diseases of the Skeleton. In the skeletal system the lesions of the greatest geriatric interest are Paget's disease, fractures and multiple myeloma. Paget's disease, we are again faced with the difficulty of drawing the line between the usual osteoporosis of senescence and the process which justifies the name Paget's disease and which may be responsible for severe pain, deformity and disability. Nor must we forget that Paget's disease may appear in persons younger than the age usual for senile osteoporosis. Although it is tempting to relate Paget's disease to the bone changes seen in hyperparathyroidism, the evidence seems still to be opposed to this view.

Fractures, especially of the thinned and weakened neck of the femur, were formerly one of the tragedies of old age. Today while no less common the much improved results of treatment make the condition much less dreaded. Healing with union has been reported in patients over 90 (14) and even over 100.

Diseases of the Endocrine Glands. One is tempted to generalize that all endocrine functions tend to be lessened as age advances and that distinct endocrine diseases are rare in the old. Both these statements are almost the truth. Nevertheless, it must be remembered that we are not yet sure that osteoporosis and Paget's disease of the bones are not related to disturbance of the parathyroids. Also thyrotoxicosis is commoner than one might at first think. A recent

Offices of
WILLIAM CALVERT CHANEY, M.D.
20 S. Dunlap Street
Memphis, Tennessee
Internal Medicine and Allergic Diseases

report (15) of thyroidectomies for thyrotoxicosis includes 200 cases over the age of 50 and up to the age of 76. Please do not think that I am accepting 50 as the onset of old age—I have good reason not to—but these statistics happen to refer to cases over 50. I have very carefully avoided being drawn into a statement as to when old age does begin. Most of us over 50 would agree I imagine that no one less than 10 years older than ourselves could possibly be thought of as being old.

Loss of gonadal function is more physiological than pathological—but worry about the loss may almost become a disease. Witness the absurd lengths to which efforts at its restoration have gone. As Warthin puts it no measure has ever brought about true rejuvenation; at most a temporary erotization has been achieved.

The hypophysis continues to function even in the old, and the hypophyseal sex hormone has been found in the urine of old men (16), and Zodek (17) has found prolan in the urine of some women up to the age of 95.

Diseases of the Cardiovascular System. We have already noted that in the aged it is the rule for the myocardium to be a little weakened, for the larger vessels especially the aorta to be somewhat lengthened, tortuous and perhaps calcified and for the blood pressure to be a little high. Nevertheless, it is interesting how good the circulation is apt to be in the old. A recent study of 300 individuals between 80 and 100 years of age reported (18) from France supports these facts. Willius (19) in this country found 45 per cent of 700 persons between 75 and 96 in age had no evidence of heart disease.

Heart failure is, however, one of the most frequent causes of death in the old. Often the heart fails with little previous evidence of myocardial disease and with little of the usual picture of congestive heart disease. It is perhaps a failure of nutrition of the muscle—partly from lessened blood supply, partly perhaps from lowered blood sugar or similar factors.

True congestive heart failure is not rare and is often exaggerated by the pulmonary fibrosis and emphysema. The valvular lesion most characteristic of advanced age is pure aortic stenosis. It is more a matter of calcification than of arteriosclerosis and the aorta beyond may be remarkably healthy as Rollston and Christian have emphasized. Osler is quoted as saying that such narrowing of the aortic orifice "helps make a man an octogenarian" by protecting the aorta from the impact of blood at each cardiac-systole.

Extensive atheroma of the aorta may occur and may indeed lead to the non-leitic dissecting type of aneurysm known as the "aneurysm of old age." Other types of aneurysm are rare in geriatric practice.

Recent reports in the literature include one on the greater seriousness of sinus arrhythmia in the aged than in the young, (20) and one stressing the rarity of thromboangiitis in this age period (21).

Personally, I have been impressed with the importance of transient lowering of blood pressure as the factor which precipitates arterial thrombosis whether cerebral, coronary, visceral or peripheral (22). I believe that many of the cerebral manifestations of the elderly result from thrombosis rather than from

hemorrhage or arterial spasm. The fact that a person's habitual blood pressure level is high does not constitute a valid objection to this theory for it is well known that the variations up and down of the blood pressure are even greater in the hypertensive than in the normal.

Diseases of the Nervous System. These last remarks bring us naturally to the nervous system. And indeed the one matter which needs special discussion here concerns the cerebral circulation for many of the psychoses of the aged result from poor cerebral blood supply. In fact, it is not unusual for mental confusion, delusions, transitory palsies, et cetera to improve markedly and often unexpectedly when the old persons circulation is improved.

Of course, I do not mean to say that all cerebral deterioration in the old is on a circulatory basis. True senile dementia would disprove any such view. Also there are cerebral changes which depend upon extreme pathologic arteriosclerosis and which will not respond to any treatment.

However, it should be emphasized that it is dangerous to assume too readily that mental changes are surely due to senility. This is especially true in the so-called presenile dementias such as presbyoprenia, Alzheimer's disease and Pic's disease. To make such a diagnosis without careful exclusion of poor circulation low blood pressure, pernicious anemia, syphilis and frontal lobe tumor is inexcusable.

We have now touched on most of the diseases usually considered important in the field of geriatrics. We must, however, remember that our present day success in the treatment of certain conditions formerly fatal in youth and middle age may lead to the appearance of these in greater numbers among persons of advanced years. For example, patients with pernicious anemia or severe diabetes mellitus did not often survive into advanced old age while today with liver extract and insulin it seems quite possible that they will. It is mere speculation but it is interesting to wonder whether the picture presented by such cases in old age, may not be different from what we expect. How long will such replacement therapy continue to be effective? How will an aged individual withstand continued hypodermics of insulin? How will the various changes of senescence occur in an individual who is lacking in an ability to form his own antianemic factor? These are interesting questions which we cannot at this time answer. To date there seems no limit to the success of replacement treatment with thyroid substance. Means (23) has recorded a case of spontaneous myxedema who has for twenty years been kept in perfect control by a daily ration of thyroid substance until she has now reached the age of 77. We must be on the lookout for the thyroid needs of our numerous thyroidectomized patients as they get older.

Characteristics of Disease in the Aged. Not only does geriatrics have its own list of diseases but these maladies have certain features in common. Most im-

ROBIN HARRIS

Eye, Ear, Nose and Throat
and Bronchoscopy

Lamar Life Building
Jackson, Mississippi

portant is the absence of pain and of many of the expected symptoms. "The organs suffer in silence," writes Sir Humphrey Rolleston, "without any local or general disturbance though collapse may occur." The body fails to react and to make its struggle manifest. Fever is often lacking.

In the old gall stones are common, colic rare, and the stone may ulcerate through into the bowel without ever producing any pain; many other examples could be given.

Mental confusion is common even in the absence of obvious fever or toxemia. Lack of will to live seems sometimes to determine a fatal outcome. An old person will sometimes simply fade into death during convalescence from some mild illness or after an apparently successful operation such as for cataract.

It is such deaths as these that seem almost physiologic--without definite pathological cause. It is of these that Warthin (24) wrote, deaths do occur from the "primary lesions of senility alone." This is the most natural ending of life--and it is rare indeed! Warthin in his enormous experience only saw twenty-five such cases and in each of them he felt that death was in the last analysis due to myocardial inadequacy.

Treatment of Disease in the Aged. And now finally let us discuss the treatment of disease in the aged. It is worthy of best attention--far more so than many a young physician is tempted to think. As Snowden (25) puts it: "Too often the tendency is to look upon the minor infirmities of old age as inevitable ones which the sufferer should bear in silence and the more acute illnesses as the beginning of the end." Neither attitude is excusable--much can be done for the minor infirmities by a thoughtful physician and we all learn by experience what unexpected recoveries the aged may make from serious illness and how successfully they may undergo major surgery.

There is, it seems to me, a curious paradox in this matter of geriatric treatment which arises from the fact that the old react poorly to medicines but may stand surgery well. This means that we should be conservative in our medical treatment but not fear to take the risk of surgery when indicated. The danger is that we will employ too many drugs and from faulty timidity deprive our patient of a chance at surgical cure.

First with regard to drugs. In general, it may be said that the aged absorb drugs slowly and that cumulative action is common. I have observed this especially with morphine and belladonna. Also it is true that sedatives may cause excitation rather than the reverse and that they often bring about mental confusion or even delirium. Rolleston advises against morphine; Barker against chloral; even bromides may cause marked confusion. Whatever sedatives you employ--use a small dose and beware of delayed cumulative action. If your choice is morphine, it is well to combine with it a small dose of atropin to protect the respiratory center. Belladonna is quite apt to excite the old and we are warned also to avoid the use of arsenic. Some even warn against digitals although this is probably more a matter of dosage. In small daily ration it certainly seems to me to do much good; although I agree that in larger dose it may be definitely harmful.

It certainly seems reasonable that the aged or-

ganism can scarcely be expected to react to cardiac stimulants. The gist of the matter is contained in a favorite story of a very experienced physician at the Philadelphia General Hospital, to the effect that if your autopsy material is running low suggest to the internes that they are not being therapeutically active enough. For a few days the poor old wrecks of a city hospital's wards will show great signs of activity but then will come the final collapse.

Much the same reasoning applies to other diseases. I have seen an elderly diabetic made much worse by over enthusiastic dieting. Many old people have lived with their maladies for years and are more or less adjusted to this symbiotic state. The balance must not be too abruptly disturbed and remember always that the geriatric patient can only be restored to the state appropriate to this age--never to youth.

Often nursing is more important than doctoring. Often little matters determine the result. We must remember to adjust our efforts to the patient's long-established habits. For example, it is harmful to try with sedatives to force an aged patient accustomed to five hours' sleep and the early awakening of the old to remain in sleep for eight hours until 8 in the morning. The old need rest and gentleness--but it is wiser not to keep them in bed too long, for fear of hypostatic pneumonia and of insidious myocardial failure.

And, on the other hand, the aged stand surgery fairly well. Baily (26) put it as follows that the aged exhibit "unusual tolerance for serious major surgery," but as he quite properly states success depends upon preoperative study and post-operative care. He stresses the importance of short bed period and good cheer. Baily reports the results of major surgery in 185 patients whose ages range from 60 to 84. The group included cases of appendicitis, intestinal obstruction, hernia, prostatic disease, cancer and biliary tract disease. The operative mortality for the series was 7.6 per cent.

Other recent reports of successful geriatric surgery include cataract operation (27) at 96; gastric resection for carcinoma (28) up to 78; cholecystectomy (29) at 86; operation on pharyngo-esophageal diverticula (30) in 3 cases all over 70. But the prize report is that of Everidge (31). The patient aged 95 wished his hernia repaired at the time of his prostatectomy because his truss interfered with his golf.

It is this spirit which if the flesh is healthy leads to longevity. An interest in life is a primary requisite. Perhaps if I have not bored you to death in this hour I hope I may have supplied you with a new or a keener interest in geriatrics, which may in turn help to lengthen your own lives.

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HARVEY F. GARRISON

HARVEY F. GARRISON, JR.

Pediatric Diagnosis,
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Immediate Treatment of Industrial Trauma*

DR. M. B. HENDRIX
Memphis, Tenn.

We are astounded when we study statistics of industrial accidents, to note the number of permanently disabled, and the length of disability from minor traumatic lesions. Early treatment before inflammation has set in will curtail the disability period greatly.

There are several basic principles in traumatic surgery. They are: (1) Antiseptics are of limited value and cannot take the place of adequate sterilization obtained by plentiful use of soap and water. (2) The first thirty-six hours is the crucial time because of shock and loss of blood. (3) A maximum of immediate care and attention results in a minimum of disability and deformity. (4) Immediate complete suture of all wounds is a dangerous procedure. (5) Rest of the injured parts is promoted by splintage and suspension. (6) Tight dressings should be avoided because they promote stasis leading to oedema, and this in turn encourages infection and retards repair. (7) Regulated active motion encourages healing and minimizes the necessity for physiotherapy.

Hemorrhage and shock should be given primary

*Read before the West Tennessee Medical Association.

consideration.

The early treatment of shock is of great importance. If there is any one factor in such treatment more important than the rest, it is the application of heat.

Wallace—who had an extensive experience with shocked patients at the battle front, states that all the established methods of treatment were used, but warmth combined with rest greatly outstripped all others in results.

Environmental conditions and other causes which contribute to the further development of shock should have prompt attention, as soon as the injured person is available for treatment. Cold and wet clothing should be replaced by dry and warm covers; exposure of the patient should be avoided; further trauma should be eliminated by proper splinting of fractures; pain and restlessness should be relieved by moderate doses of morphine. Transfusions and infusions should not be delayed.

SURGICAL PROCEDURE

The surgeon cannot lay down hard and fast rules as to the treatment of a wounded man, but must correlate his power of observation and apply intelligently his scientific knowledge. When he has treated a number of traumatic injuries, he can frequently tell at a glance and by the taking of the pulse, whether the patient is suffering from shock or hemorrhage, or both.

In general the principles of treatment are:

- (1) Control of hemorrhage
- (2) Allay mental excitement
- (3) Preserve body heat
- (4) Stimulate circulation
- (5) Conserve tissue fluids and combat acidosis
- (6) Intervene surgically at the right time

If a patient is deemed a poor surgical risk it is entirely out of the question to perform a complete repair. The surgeon should merely perform that which will preserve life. There are some conditions necessitating immediate surgical intervention, namely, active hemorrhage from injury to large vessels including wounds necessitating amputation, and penetrating wounds of the abdomen and skull. If one can wait until shock reaction has set in, the chances for complete recovery are far greater.

ANAESTHETICS

Ether and ethyl chloride are strong depressants and the lowering of an already low blood pressure may be fatal. Nitrous oxide, oxygen, three to one, keeps the patient in analgesia with satisfaction and more safety. Spinal, conductive, regional and local anaesthetics are less depressing than ether or ethyl chloride. If a general anaesthetic is advisable or necessary an attempt to raise the pressure by means of transfusion or infusion is essential.

WOUNDS

At the outset let us remember that every wound

DR. Wm. F. HAND

Gynecology and General Surgery

519-21 Standard Life Bldg.

Jackson, Miss.

is already infected unless made under aseptic precautions. Hence our problem is solely the treatment of infected wounds. We know that it takes six or eight hours to demonstrate organisms in a wound recently acquired, therefore our intervention should be made within that period, if we expect to obtain best results. We know also that bacteria thrive only in the presence of devitalized tissue, and on this depends the rational of debridement or excision of destroyed and damaged material.

The wound is prepared by soap, water and peroxide; dried and oily substances removed with benzine or ether. It is then irrigated with a solution of boric acid or saline solution if soiling is present. Unnecessary sponging should be avoided as this irritates the tissue. Let us take for example a wound of the hand due to a puncture from a nail. All these puncture wounds should be subjected to prolonged immersion in soap and water, grease being first removed. Next the dried track of this puncture should be thoroughly irrigated with some antiseptic. Personally, I employ iodine in full strength, using a hypodermic syringe if necessary. Next a wet dressing is applied with some antiseptic of proven value; I use Ochsner's solution re-inforced with heat. The hand is kept quiet, and another dressing of the same sort is applied the next day. If, on the third day, signs of infection are absent, we may be sure that recovery will be uneventful.

A lacerated wound of the scalp or leg, frequently encountered in our railroad shops, serves as an example of the next group. Here, again, plentiful use of soap and water is most important. We should spend from ten to thirty minutes in cleaning such a wound; and in the scalp, inspect and palpate for possible fracture. Leave no blood clot. Blood clots and macerated muscles are wonderful culture media. If there is a contusion and laceration, I frequently place the sutures (non-absorbable) but do not tie them until the third day. This is the principle of delayed suture, compared with immediate suture; and if we practice it we will attain primary union and rarely obtain infection. If immediate suture is applicable, drain always, using a rubber band or a strand of suture material. Remove the drain on the third day.

Tetanus antitoxin should be given routinely. If an extremity is involved, elevation is most important to assist the return flow of blood.

AMPUTATIONS

If there has been marked soft tissue destruction, as well as bone destruction, with no chance of viability; immediate amputation is essential. If the condition of the patient does not warrant a flap operation, a rapid circular should be performed and left open if advisable.

FOREIGN BODIES

Search for foreign bodies should be attempted only after definite localization, and even then under the best of conditions, the search is often tedious and even fruitless. All foreign bodies of the eye and other eye injuries should be promptly referred to an eye specialist.

BURNS

In the treatment of burns the traumatic surgeon should look into the future and the procedure should

be determined according to the physical findings. The principles are:

- (1) Treat or prevent shock
- (2) Care of the injured tissue and prevent infection
- (3) Relieve pain
- (4) Promote excretions
- (5) Stimulate circulation

The general early treatment is exceedingly important, for the severely burned die quickly from shock. The wound itself should be made painless as rapidly as possible for this symptom adds greatly to the shock. Spraying with novocaine solution, one percent, is most valuable.

There are many treatments for burns but most traumatic surgeons in America have come to utilize the old tannic acid method almost exclusively. We proceed as follows: First give narcotics to control pain. Then open blebs and remove loose skin. Irrigate with warm saline solution if necessary, to remove debris. Spray or swab thoroughly with freshly made 5% tannic acid solution.

Remove the patient to an electric lighted tent where the areas will be kept dry. (This is very important). Force fluids by mouth if possible, to the extent of 1,000 c.c. a day for each 25 lbs. of body weight. Remove the coagulum when necessary with saline solution. In joint burns it is of paramount importance to prevent contractures by proper splinting.

DISLOCATIONS

By far the treatment of choice in reducing dislocations is manipulation under anaesthesia. The sooner the reduction, the better for all concerned. The after care requires us to employ massage and gradual motion from the very beginning and for that reason, casts and other dressings which hide the part should not be used.

FRACTURES

In the immediate treatment of fractures we must keep in mind that, as time goes on, the spasm increases and inflammation and hemorrhage ensue, with result that reduction is more difficult to accomplish. I especially wish to emphasize the importance of early reduction in all fractures. By so doing we are treating the patient minus complications. Delayed and non-union is favored by loss of time. In most cases, general anaesthesia should be used when there is any deformity. Local anaesthesia with novocaine is quite efficacious if the services of an anaesthetist are not available.

X-rays before setting have a place, of course, but are much more valuable after setting. In the diagnosis of fracture, the eyes and fingers of the physician, which are always available, have a value but are not utilized frequently.

There are after all only two types of fracture, either of which may be simple or compound. Moore-

THOMAS D. MOORE, M.D.
UROLOGY and UROLOGIC SURGERY
Suite 102-6
Physicians and Surgeons Building
899 Madison Avenue
Memphis, Tennessee

head.—Type I is the dislocated variety in which the fragments are over-lapped and do not touch at the ends. Type II is the non-displaced variety in which the fragments are not over-lapped and the ends are in contact.

Type I needs reduction and retention; Type II needs retention only.

The object of treatment is to convert Type I, the over-lapping; into Type II, the non over-lapping. This is accomplished by two kinds of traction, either manual or mechanical. Compound fractures are dangerous and should be treated as other accidental wounds.

After reduction comes retention or splinting, and the essential of this is safety; hence every splint should first of all be safe, and second, it should be simple. Make the splint fit the patient, do not try to make the patient fit the splint. Moulded two piece plaster of paris splints accomplish the purpose. Sheet aluminum is also very good. My experience has been that practically all fractures of the humerus, femur, clavical and scapular should be treated by means of suspension and traction in bed. This is especially true of comminuted spiral fractures, interposition of soft parts, fracture dislocations as well as in fractures of the patella, displaced olecranon and displaced condyles.

Fractures and other injuries of the spine are of frequent occurrence in railroad and industrial work. An early diagnosis and the application of appropriate treatment are greatly to be desired in order to reduce the tremendous cost in money and waste of time entailed. In truth, no other part of the body has been of greater expense, or the subject of more litigation to the railroads than the unskilled and random diagnosis of lame back, following railroad or industrial injuries.

There are two general classifications of back injuries, namely; extra spinal and intra-spinal. Obviously the concern of the surgeon is the problem of accurate localization of the injury. Is it extra-spinal or intra-spinal? Upon the answer to this question depends the treatment and economic liability of the victim.

Contusions, wounds of the soft parts, sprains, lacerated ligaments, fracture of the transverse and spinal processes, are the frequent extra-spinal lesions encountered.

In those cases definitely injured it is well to classify them into those in which rest in bed is required, and the ambulant cases, requiring fixation, either in the form of plaster of paris jackets or other rigid apparatus, and those in which adhesive strapping or application of linaments may seem to be beneficial. Diathermy and infra red ray play an important part in the treatment and care of back injuries.

That type of injury classified as intra-spinal, is of most concern to the surgeon and patient alike. It is generally accepted that the early clinical examination of the patient with a severe cord lesion is often inadequate to fix the extent of the injury. In cases of suspected severe cord injury, an immediate neurological examination, X-ray examination, institution of treatment for shock and finally a review of neurological findings should be completed within the course of a few hours.

Whether the lesion is incurable, one demanding immediate operation or whether it is a partial lesion

being converted into a complete one by pressure, are problems that demand as prompt a decision as possible. In other words, a definite course of procedure should be decided upon within the first ten or twelve hours. Allen has shown by animal experimentation that operation on cord pressure cases is of much less value after the lapse of this period.

The most common intra-spinal injuries encountered in industrial surgery are: (1) the compression fracture with but slight or no cord involvement; (2) fracture dislocation, which is of most concern because it is always associated with severe cord injury.

Intradural or intramedullary collections of blood and oedema with swelling of the cord result in local compression, manifesting cord symptoms.

A large number of spinal cord lesions are hopeless because of immediate destruction of the cord at the time of injury. A few of these cases should be promptly recognized because of the vertebral deformity and clinical findings.

The establishment of the existence of pressure is the essential feature in the analysis of spinal injuries. Whatever the cause of the pressure, the result is partial obstruction or a complete occlusion of the spinal subarachnoid space at the site of the injury. Obstruction of the spinal subarachnoid space following trauma may be regarded as satisfactory evidence of pressure on the cord. The uncertainty that arises as to the local conditions about the injured segments of the cord has led to operations which have shown the cord to be perfectly unharmed.

Some surgeons have stated that the only cases suitable for operation are those in which the symptoms point to a partial lesion and that operation should only be performed after a sufficient interval of time has elapsed to prove that it is a partial lesion. If this be true, then we must abandon as hopeless a certain number of cases in which operation would be of benefit.

The essential indication for operation in spinal cord trauma is the existence of pressure on the cord as determined by a block of the subarachnoid space.

In the surgery of traumatic back injury with cord involvement, the operation that presents itself as a possibility is laminectomy. The procedures indicated in a given case therefore are removal of clots, indriven fragments of bone, reduction of deformity, longitudinal section of the cord for oedema, etc.

The prime object of surgical diagnosis in traumatic back injury is the determination of the degree and character of cord injury and the extent of bone injury and displacement.

Without cord injury of bony involvement the acute and chronic lame back are presented for treatment. Cord injury definitely established the question arises, is it operable, is the lesion transient, one in which spontaneous recovery may be expected through fixation alone, or is the extent of the injury of such degree that death is inevitable or the victim a hope-

Compliments of
DR. JOHN P. HENRY
Suite 2005-6-7 Sterick Building
Memphis, Tenn.

less cripple. Operability once determined, laminectomy should be done as it is only by this that we can hope for ultimate recovery.

The acutely sore traumatic spine, the chronic lame back and the severely injured vertebral column and cord are frequent problems in industrial and railroad surgery. Presented as a problem of differential diagnosis and applied surgery, the acutely injured spine will ever tax the diagnostic acumen and surgical ability of the general surgeon and orthopedist alike.

The Treatment of Hodgkin's Disease

C. H. HEACOCK, M.D.
Memphis, Tenn.

The year 1932 marked the centennial of the publication of Thomas Hodgkin's paper entitled, "On Some Morbid Appearances of the Absorbent Glands and Spleen." (12) He reported seven unusual cases of enlarged lymph glands. Of these seven, not more than three were cases of that process known as Hodgkin's disease since 1856, when it was so named by Wilks. (37) Through the remainder of the nineteenth century it was regarded as a clinical syndrome. Not until 1902, when Dorothy Reed (23) gave us our first accurate description of the microscopic appearance, did the status change to that of a pathologic entity. Today, the only basis for diagnosis is a histopathologic one, based on Dorothy Reed's description.

Although a great deal of work has been done and a voluminous literature has accumulated, little more is known of the nature and cause of Hodgkin's disease than was known one hundred years ago. Whether it is malignant or is an infectious granuloma is still an unsettled question, and the possibility of tuberculosis is not to be ignored. An understanding of the various controversial theories, however, will assist us in estimating the value of any kind of therapy.

Until 1898 practically all writers on the subject, including Virchow, regarded Hodgkin's disease as a neoplastic condition. In 1898 Sternberg (28) first described it as a peculiar type of tuberculosis. Later he admitted the possibility of non-tuberculosis forms, but the idea he advanced found many supporters. Among these were Frankel and Much, (9) who demonstrated Grampositive bacilli in 12 of 13 cases. The rods were antiformin fast, but not acid fast. Frankel and Much believed them to be modified tubercle bacilli. Ziegler (40) pointed out that 20 per cent of his cases of Hodgkin's disease were associated with tuberculosis, and that in 10 per cent the reactions to inoculation were positive. L'Esperance, (16) after experimental work on chickens, concluded that the avian type of tubercle bacilli may be important in the production of the disease. Sweany (30) was of the opinion that tuberculosis of the lymph nodes often developed into Hodgkin's disease if an atypical strain of organism was present and the resistance of the patient was low. Although the lesion was a neoplasm, Stahr (27) believed the exciting agent was the tubercle bacillus.

In 1913 Bunting and Yates (4,5,6) described a diphtheroid organism obtained in pure culture in

four cases and observed in three others. This bacillus was Gram-positive and not acid fast. According to Simonds, (26) other investigators consider this organism identical with the one previously described by DeNegri and Miremet and that, already referred to, described by Frankel and Much. After its inoculation into monkeys, Bunting and Yates produced a progressive enlargement of the lymph glands with lesions so similar to those of the early stages of Hodgkin's disease in the human being that they called the organism "corynebacterium Hodgkins." Billings and Rosenow (1) confirmed this work the same year and advocated treatment by vaccine, preferably an autogenous vaccine. Twelve patients were so treated. Regressions were noted in eight, although six of the eight also had roentgen therapy.

Further confirmations of the work of Bunting and Yates have been wanting or unconvincing, and again the pendulum seems to be swinging toward the neoplastic theory. Mallory (19) refers to Hodgkin's disease as "the sclerosing form of lymphoblastoma, the distinguishing feature of which is the presence of tumor cells, often in very small numbers, which are different from any cells in chronic inflammatory processes." By lymphoblastoma, Mallory means any tumor composed of the lymphocytic series. MacCarty (18) uses the same term to include Hodgkin's disease, lymphosarcoma, and lymphatic leukemia. Warthin (33) used the term lymphocytoma. Other names include malignant lymphoma and multiple lymphadenoma. Authors who favor the theory that Hodgkin's disease is infectious, favor the term lymphogranuloma.

In children it is difficult to distinguish the disease from tuberculous adenitis, whereas in adults the two types of lymphadenopathies most frequently confused are the generalized type of lymphosarcoma and Hodgkin's disease. To quote Wellbrock and Loughery, (35) "Hodgkin's disease and lymphosarcoma are derived from the same stem cell, but differ in the degree to which this cell becomes differentiated. The second parent cell of Hodgkin's disease is the free or wandering histocyte, whereas the second parent cell of lymphosarcoma is the lymphoblast. It would be possible for the two conditions to be associated."

Not only are Hodgkin's disease and lymphosarcoma similar in derivation and histologic characteristics, but they respond to radiation therapy in almost an identical manner. The same dose of radium or roentgen rays will cause practically the same degree of regression in a given tumor, regardless of whether it is a lymphosarcoma or Hodgkin's disease. The response of tuberculous adenitis to radiation is not the same as the response of the other two, either in the degree of sensitivity or the characteristics of the final stage of the gland.

It is impossible, without the aid of the microscope, to distinguish between Hodgkin's disease and lymphosarcoma and between lymphosarcoma and leu-

WALTER A. RUCH, M.D.

Practice Limited to Obstetrics

Suite 202 Physicians and Surgeons Bldg.

899 Madison

Memphis, Tenn.

kemia. With the microscope it is usually difficult and sometimes impossible.

While we are prone to think of Hodgkin's disease as arising in the lymph nodes, and primarily in those of the neck, we should remember the frequent early manifestations in the spleen and liver. When Reed completed her work, she thought one could not have Hodgkin's disease unless the glands of the neck were enlarged, but Symmers (31) showed from a study of autopsy material at Bellevue that one could have the disease without any involvement of the cervical glands. It may be primary in any of the chains of lymphatic glands. Reeves (24) found seven cases in which the changes began in the tissues of the orbit; Giles (10) reported one as primary in the nose and antrum; and Blount (2) had a case in which the lesion appeared in the spine and left shoulder before it became apparent in the glands. That the osseous system, especially the spine is affected secondarily has been emphasized recently by many authors, notably Lockwood, Johnson and Narr, (17) and Dresser. (8) In a recent paper Dresser reported bone lesions in 10.7 per cent of 149 proved cases of the disease. At least, the possibility of extension to the bone should be remembered, and the fact stressed that roentgen rays are a valuable adjunct in revealing the extent of the disease, as well as a therapeutic agent.

In the chest also, a roentgen ray examination is almost indispensable. Kirklin and Hefke (13) found pathologic changes in the thorax in about 49 per cent of the cases in which the disease was present in other parts of the body. Based upon a study of 25 cases of thoracic involvement, Wessler and Green (36) classified them into the following types:

- (1) Mediastinal tumors, expanding only
- (2) An infiltrative type
- (3) Isolated circular areas in the lung
- (4) Discrete nodes at the hila

Kirklin and Hefke found they could divide their 40 cases into one of two groups. In the first were those in which the glands of the mediastinum or hila or both were enlarged, and in the second were those with pulmonary lesions, either infiltrative or metastatic. Thirty per cent of the cases fell in the second group; in all except one there were also some enlarged glands in the mediastinum or hila.

Many other conditions, especially lymphosarcoma, may simulate the roentgen appearance of thoracic Hodgkin's disease, so that it is frequently impossible to make a definite pathologic diagnosis. The latter always remains in doubt until a biopsy is performed, and even then the pathologist may not be able to unquestionably classify the lesion.

Irradiation, surgery, heliotherapy, ultraviolet radiation, autogenous vaccines, and drugs have been recommended in the treatment of Hodgkin's disease. Autogenous vaccines and all drugs except arsenic have been generally discarded. The disease tends to have spontaneous remissions, and arsenic and actinotherapy may have a beneficial influence in prolonging these remissions. Irradiation and surgery are the only methods of attacking the tumors themselves. Surgery at one time played an important role in the treatment of these patients. It is still used advantageously in some cases, but obviously must be limited to the superficial glands, or applied occasionally for the mechanical relief of a condition which interferes

with life. We recently saw a man for the first time just as he was about to die from Hodgkin's disease. He had survived nearly ten years and the only treatment he had had was surgical removal of glands on three occasions. Minot and Isaacs (20) believe that early radical surgery supplemented by irradiation gives the greatest benefit.

Today it is generally agreed that the best treatment is by irradiation, and that surgery is indicated only for removal of glands for microscopic diagnosis. Some objections are still raised, however, to this method of therapy.

The chief objection is that radiation may cause a rapid dissemination of the disease. This occurs at times, regardless of the type of treatment. After a careful study of this particular question, O'Brien (21) was unable to find any documented evidence of dissemination. Weber (34) calls attention to the fact that in children Hodgkin's disease is often associated with tuberculosis and results in widely disseminated miliary tuberculosis with fatal termination, in spite of all forms of therapy. On the other hand, Williamson (38) reports a patient with Hodgkin's disease of the spleen without any other demonstrable involvement. Under a mistaken diagnosis of Banti's disease, a splenectomy was done. Within two weeks practically every accessible gland in the body began to enlarge rapidly, indicating, he believed, a sort of compensatory reaction.

Another objection to radiation is that it produces a progressive destruction and sclerosis of the lymphoid tissue, which is reflected in the blood picture as a lymphopenia. According to Bunting, (3) however, this is the characteristic blood picture of the disease. He states that as the disease progresses the total leukocytes increase, usually up to 20,000 or higher, but that the percentage of lymphocytes is often less than 5, the polymorphonuclears 80 or more, and the large forms or transitionals exceed the lymphocytes in number.

Kilma (14) studied the blood of 32 patients with histologically verified lymphogranulomatosis. He found that in the early stages or during remissions the count was normal. When the glands were extensively enlarged, he usually found neutrophilic leukocytosis, monocytosis, or progressive lymphopenia. In rapidly advancing cases, severe anemia, leukopenia, lymphopenia, or eosinophilia were present. Cases with leukocytosis had a better prognosis than those with lymphopenia. Marked lymphopenia appeared to be a sign of a rapid course.

The third objection is that the prognosis has not been affected by roentgen ray treatment. The prognosis of Hodgkin's disease seems to be the only consideration upon which there is any agreement. Radiation does not affect the ultimate fatal outcome, but it may have remarkable palliative value. The following case illustrates the palliative relief obtained by one course of roentgen ray treatments.

SAMUEL BROOKS CARUTHERS, M.D.

Grenada Clinic, Grenada, Miss.

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CASE REPORT

Mrs. H. M., a Mexican, aged 36, was admitted to St. Joseph's Hospital, Memphis, Tennessee, on October 5, 1931. Her chief complaint was pain in the left renal area. The present attack had begun four days previously, but she had experienced the same type of pain at intervals for two years. One year before the glands of the neck had begun to swell. They had varied in size, but were always enlarged to some extent. She had lost a great deal of weight. The patient was now confined to her bed. Her temperature fluctuated from slightly above to slightly below 100. Her body was covered by scratch marks, but there were no body parasites. Her left leg was flexed and could not be extended. She cried most of the time because of the pain down the leg and in the renal area.

Examination revealed discrete enlargement of the cervical, axillary, and inguinal glands. A mass could be palpated in the left renal area. The left kidney functioned normally and the urine from that side was negative. A pyelogram showed some distortion of the calices and displacement of the entire kidney, which was thought to be caused by pressure of an extrinsic mass. Stereo-roentgenograms of the chest showed a bilateral widening of the mediastinal shadow with circumscribed borders. There was some fluid at both bases. The interpretation was Hodgkin's disease. A puncture was made of one of the cervical glands and after a study of the cells obtained, Dr. McIntosh confirmed this diagnosis.

Between November 7 and 16 the patient had roentgen ray treatments over thirteen areas. The following factors were used: 135 peak kilovolts, 4 milliamperes, 4 mm. aluminium filter, 50 cm. distance, and 30 minutes to each area.

Regression began immediately in all the enlarged glands, and in one week she was able to sit up. A few days later she walked as well as ever. The mass in the renal area disappeared before she was dismissed on December 8. Her temperature remained normal after November 16, and the pruritis disappeared about the same time. Her red blood cells before the treatment on November 7 were 3,710,000. On December 8 they were 4,600,000. The white cell count dropped from 12,500 to 5,050.

She returned on February 13, 1932. Meanwhile, she had done all her housework and had been free of all symptoms. She had gained 28 pounds and her weight was normal. A few small glands were palpable on the right side of the neck. A roentgenological examination of the chest showed that the widening of the mediastinum had disappeared and the fluid had been absorbed. The examination was otherwise negative.

Treatment with roentgen rays and radium offers several distinct advantages over surgery. Radiation is applicable in all cases, whereas surgery is limited to the accessible glands. It is less expensive, and hospitalization is not required for ambulatory cases. With proper radiological management, hospitalization is seldom necessary except during the terminal stages or in cases similar to the one cited. Another advantage of this method of therapy is less invalidism.

Although the final result of all treatment is the same, the patient's life expectancy is extended, on the average, and he is able to pursue his vocation over a longer period because of the relief from pain. Before the general use of irradiation, Senator (25), in 1910, gave two years as the average duration of life. Three years later, Osler (22) stated rather vaguely that the average duration was two to three years. Recent statistics compiled from reports by Voorhoeve (32), Gilbert (11), and O'Brien (21) on 55 patients of all ages and stages of the disease show an average duration of 53 months.

Any prognosis as to the length of the course of Hodgkin's disease with irradiation or any other therapy should be guarded. It is known that the prognosis is influenced to some extent by age and sex, but the first consideration should be the nature of the case. If we regard the lesion as a neoplasm, we must remember that its nature varies from benign to very malignant. If the infectious theory is preferred, we may have a very acute form with early fatality, or one in which the course extends over a period of several years, although no treatment is given. A series of patients with a more malignant type of the disease probably was responsible for the conclusion reached by Stone (29), a radiologist, that radiation could be expected to offer palliation, but not prolongation of life.

Only statistics based on a relatively large number of cases are valuable. Unusual cases at the other extreme also are seen. Lerche (15) reported a case in 1928 in which the disease had existed since 1910. The patient had five operations, including a mediastinotomy, and three courses of roentgen ray treatments. Lerche felt that surgery deserved the greater credit; he overlooked the fact that radiation was not given until 1921 and 1922 and no evidence of recurrence had been observed since that time. There was no doubt of the diagnosis in this case, but the unusually long course should have been ascribed to the benign nature of the condition rather than to the method of treatment.

It is difficult to tell in advance what will happen as a result of roentgen ray treatment. In my opinion, however, if an appreciable amount of benefit is not noted after the first course, further radiation will be of little value.

Wood (39) compares Hodgkin's disease to the leukemias as to the results of radiation treatment. There is an acute form of Hodgkin's disease just as there is an acute lymphatic leukemia, and radiation is useless in both.

The best method of irradiation is a disputed subject. A number of therapists advocate short wave length rays, whereas others are equally sure these should never be used. Some believe that the areas should be extensive, with the idea that the dose will be prophylactic in those areas which are gland bearing yet not involved. Still others are of the opinion

R. L. SANDERS, M.D.
General Surgery

L. C. SANDERS, M.D.
Internal Medicine

M. P. KENDRICK, D.D.S.
Oral Surgery

J. CASH KING, M.D.
Consulting

Suite 324—Physicians and Surgeons Building
Memphis, Tennessee

that only the affected regions should have treatment.

It is rather generally agreed that cells gradually acquire an increased tolerance to the rays and, sooner or later, irradiation loses its effect on enlarged glands. Since we cannot with absolute certainty destroy all lymphatic tissue by a prophylactic dose, it seems logical to waive treatment until enlargement occurs and then to institute radiation with the assurance that no tolerance has been acquired. Another reason for limiting the areas, as well as for using longer wave lengths, is found in the effect on bone marrow and the anemia of intensive radiation. But the strongest argument for beginning with the longer wave lengths lies in the fact that shorter wave lengths are still effective after the patient has acquired tolerance for the longer lengths. I recall one patient who was benefitted by a topical application of radium after roentgen rays of both moderate and short wave lengths were no longer effective. My own experience bears out the following statement of Desjardins (7): "If the radiologist 'shoots his heaviest bolt' first in the form of high voltage roentgen rays at the onset, it may, it is true, yield most gratifying and startling immediate regression, but when, later, recurrences of adenopathy cause the patient to seek further treatment, such treatment will be found much less effective. The same is true for the use of radium, for the same reason. Therefore, inasmuch as radiotherapy has been shown not to prevent the fatal outcome of the disease, no matter how treated, it is evidence of good judgment to reserve the heavy artillery until the lighter guns have exhausted their effect."

SUMMARY

Although it has been 100 years since Hodgkin's disease was first described, we have made little progress in our knowledge of its cause and nature. Interest has not been lacking, however, as a great deal of research has been done and the literature on the disease is voluminous. It is one of the most controversial subjects in medicine today; the only common ground of agreement seems to be that the outcome will be fatal.

Any treatment we have is symptomatic, being directed toward removal of the enlarged lymphatic glands. In the majority of cases this is accomplished most satisfactorily by irradiation. When several regions are involved, roentgen rays are more suitable than radium. Palliation is frequently striking and may be expected in slightly over 60 per cent of cases. When a patient responds as in the case cited, we should not become over-optimistic and enthusiastic, but should remember that the first response is always the best and that sooner or later tolerance to radiation will develop. It is impossible to determine in advance which patients will benefit, but all should receive the most efficient treatment we have.

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PERCY B. RUSSELL, JR., M.D.

Practice limited to

OBSTETRICS

915 Madison

Memphis, Tennessee

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- 20 South Dunlap St.

Toxemias of Pregnancy

DR. F. L. MCGAHEY
Calhoun City, Miss.

Toxemia of pregnancy, as the name implies, is that condition in which we have certain toxins or poisons present in the circulating blood. Most authorities are agreed that these toxins are caused by certain metabolic disturbances or some pathological conditions which occur most frequently in the liver and kidneys.

Among the predisposing causes may be mentioned focal infection in the tonsils, abscessed teeth, appendix, gallbladder and sinus infections. This condition is also more likely to occur in individuals who have an unstable nervous system or those who have previously had some liver or kidney disease.

For convenience of discussion I propose to consider this subject under the following subheads; 1. The mild cases, 2. The severe cases or hyperemesis gravidarum and 3. Eclampsia.

In the mild cases we usually have nausea and vomiting, constipation, headache, dizziness, hyperexcitability, sometimes edema and pigmentation of the skin and a general state of lassitude. There may also be an elevation of blood pressure and may or may not have an albuminuria.

The treatment of these mild cases may almost be summed up in one word—Elimination. In my opinion the best agent to use for this purpose is magnesium sulphate. In addition to free elimination all nitrogenous foods should be eliminated from the diet and the patient should strictly observe specific instructions as to the hygiene of pregnancy which includes regular rest periods, proper exercise, regular blood pressure readings, urinalysis and dietetic measures. Alkalies such as citro carbonate or potassium citrate with one of the bro-

mides may be indicated in these cases.

The severe form of toxemia of pregnancy most often occurs around the second or third months but may occur at any time during pregnancy. Here as in the mild cases the first symptoms complained of are nausea and vomiting and loss of appetite and often they will become nauseated and vomit even when asked to take food or drink. Soon she begins to complain of pain in the epigastric region and general abdominal soreness. At first the vomitus contains only food and mucus and water and later bile and finally becomes bloody or coffee-ground in character. During this time there is a gradual diminution in the output of urine which is highly colored and contains a varying amount of albumen, casts, bile and acetone. Here also there is usually an elevation of the blood pressure and this rise in blood pressure is often the first sign of impending danger.

These cases of severe toxemia should be put to bed and preferably in a hospital away from all friends and relatives. Here again free elimination is possibly the key to the best line of treatment, large doses of bromides per rectum every four or five hours as indicated. The diet should be rigidly regulated, and should consist of such as cereals, milk in the various forms, sugar, fruit juice as lemonade, and dry toast or milk toast. They should all have an abundance of fluids either by mouth, intravenously, subcutaneously or per rectum. Large doses of alkalies by mouth is indicated and should be given if the stomach will retain it. I don't think we are justified in giving morphine as a routine in these cases. Ammonium chloride often gives good results in cases that are edematous and have a scanty output of urine.

If these measures fail one should always ask for consultation with an idea of emptying the uterus which will cure all cases if done early enough. It is not always an easy matter to determine just when to do this but I think it is always better to err and save the mother when in doubt.

Eclampsia is a symptom of one or more underlying diseases and when this symptom-complex does occur it is always extremely exciting to the patient's family and friends and should be considered as serious by her physician. The most frequent underlying cause is either hepatic or renal but may be from other sources. The most frequent signs and symptoms of eclampsia are.

1. High blood pressure, around 200 or higher
2. Urine loaded with albumen, sometimes solid on boiling
3. Coma
4. Convulsions
5. Rapid pulse
6. Elevation of temperature
7. Edema which may be marked

Any case having two or more of these symptoms

ROSS E. ANDERSON, A.B., M.D.
Standard Life Bldg. (Suite 515)
Jackson, Miss.

Bronchoscopy
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Ionization for Hay Fever

should be considered severe.

TREATMENT

Since it has been found that eclampsia usually occurs in patients who have had no prenatal care it naturally follows that if we are able to properly impress upon these patients the necessity of having regular examinations made during their pregnancies that a large number, or I might say a vast majority of cases of eclampsia will be prevented. There are in practically every case certain danger signs or signals that if recognized and respected will certainly prevent future trouble. There is usually a gradual or progressive rise in blood pressure followed by an albuminuria which gradually increases as the urine becomes scant and the patient becomes edematous and complains of visual disturbances and headaches, any or all of these means impending danger.

After the patient has had one or more convulsions, the treatment should depend more or less on the condition of each individual case. It is not important to wait for a differential diagnosis as to the underlying cause of eclampsia in any given case, if she has albuminuria, hypertension and convulsions since we know that emptying the uterus in time will relieve or cure practically all of these cases. As to the method of delivery there should be no hard and fast rule. There is no more reason for saying that every case of eclampsia should receive conservative treatment than there is in saying that every one should have a cesarean section. If the cervix is fully dilated or easily dilatable with no pelvic abnormalities and the head is low down a forceps delivery is indicated or if head is not low and you find a dilated cervix, a version and extraction might be the method of choice.

If we elect to treat a given case conservatively the first thing to do is one fourth to one half grain morphine hypodermically followed by sodium amytal seven and one half grains in ten cc. of water given slowly which should cause a thirty to fifty drop in blood pressure. The amytal may be repeated in three grain doses by mouth or rectum every three or four hours as indicated. Or magnesium sulphate in doses of twenty cc. of a ten per cent solution may be used every hour till convulsions are controlled after which she may be kept quiet with fifteen or twenty grains of chloral per rectum as needed. Of course in addition to this she must be kept in a very quiet place, warm but no profuse sweating, room well ventilated, proper attention to mouth and throat, stimulation if pulse is one hundred and ten or more and glucose intravenously. After the convulsions are controlled the question arises as to what procedure is best to pursue. You still have your potential source of danger present. I am thoroughly in accord with a statement made in a report of The American Committee on Maternal Welfare which is as follows, "When the convulsions have been checked, termination of pregnancy should be advised by the method best suited to the obstetric indications and environment." If it is decided to terminate the pregnancy it is best to either rupture the membranes or do a cesarean section which leads up to a consideration of the radical treatment of eclampsia.

If we have a well equipped hospital and a competent surgeon is available I think that a low cesarean

section under local anesthesia is the best treatment we have to offer.

If the operation is done under local anesthesia, the shock is not as great as when the patient goes through the regular course of labor and certainly the fetal mortality will be greatly reduced and also the periods of hospitalization and convalescence will be reduced. In fact, I think that eclampsia is an indication for cesarean section and I have had this done on my eclamptics for the past three years and am glad to be able to say that there were no fatalities to mothers or babies. I consider it just as important to have these patients operated on before they have been subjected to repeated examinations and manipulations as it is to have your acute abdomens opened before you give purgatives.

There are about five thousand women in this country who die annually from eclampsia and associated forms of toxemia. This does not include that great number who apparently recover from the acute stages and are left with some permanent cardio-renal disease which gradually progresses to a fatal termination and which might have been prevented if that patient had been subjected to a low cesarean section immediately following the first eclamptic signs.

When we begin doing early cesarean sections on eclamptics just as we are now doing on acute abdomens, we are going to see a decided drop in the maternal mortality and it will be a rare thing to lose one of the babies.

DEATHS OF MISSISSIPPI PHYSICIANS

Dr. John Hillman McLain, Jackson, June; Dr. Sam Poole, Leakesville, June; Dr. S. E. Rees, Purvis, July; Dr. James L. Lenoir, formerly of Buena Vista, Miss., died at Amite, Louisiana; Dr. John Allen Thames, formerly of Collins, Miss., died at Harvey, Louisiana; Dr. J. H. Galloway, formerly of Canton, Miss., died at Roseland, Louisiana; Dr. Isaac Posnainsky, formerly of Long Beach, Miss., died in New Orleans, Louisiana.

EUGENE ROSAMOND

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Rosamond Clinic for Children
Madison Avenue at Somerville
Memphis, Tenn.

HENRY G. RUDNER, M.D.

Clinic—Internal Medicine

1198 Madison Avenue

Memphis, Tenn.

DRS. O. S. McCOWN — O. S. McCOWN, JR.

GYNECOLOGY—UROLOGY—SURGERY

899 Madison

Memphis, Tennessee

Empyema or Pyothorax

L. B. MORRIS, B.Sc., M.D.
Macon, Miss.

Empyema is the accumulation of pus within the pleural cavity. It is the suppurative stage of pleurisy with effusion; but in many cases suppuration occurs so rapidly that no anterior stage of serious effusion can be recognized. In no case is there any sharp line of distinction to be drawn between the two conditions, as the serious exudate gradually becomes sero-purulent and this in turn assumes the usual character of pus.

ETIOLOGY: (1) Empyema is most frequent in children as a complication or result of a lobar pneumonia. After the first decade this type of empyema is most common in the second and third decades of life. In adults it is more common in men.

(2) Influenza is the next most common cause of empyema.

(3) Empyema may occur as a complication of the exanthematous fevers, typhoid, typhus and pyemia.

(4) It may follow contagious infections, as tuberculosis, abscess of the lung, purulent osteitis of the ribs, etc.

(5) It may be due to wounds or foreign bodies that enter the thorax.

BACTERIOLOGY: Pneumococcus is the most frequent organism. The Streptococcus, staph., influenza, typhosis, G. C. and colon are occasionally found. The Bacillus tuberculosis is usually difficult to demonstrate.

CLINICAL VARIETIES: Bilateral empyema is rare. However, I have had the misfortune of having some three cases recently, one case that ruptured thru the diaphragm into the peritoneal cavity. (2) Encapsulated empyema (3) Total empyema (4) Pulsating empyema.

SYMPTOMS: Are those of a pleural effusion, pus evidence of a pyogenic infection.

Inspection—Immobility of the affected side, displacement of the apex beat and fullness of intercostal spaces.

Palpation—Increased resistance with decrease or absence of vocal fremitus.

Percussion—Flatness.

Auscultation—Distant or absent breath sounds.

DIAGNOSIS: This can usually be made from the clinical findings. If in doubt, the x-ray or aspirating needle will quickly clear up the diagnosis. A negative aspiration does not negative the presence of pus. Repeat aspirations may be required at different points.

PROGNOSIS: Absorption is rare but occasionally occurs in Children. (2) Inspissation of pus and chronic abscess is the usual out-come. (3) Spontaneous rupture thru the chest wall (4) Perforation into adjacent organs or cavities.

TREATMENT: The very toxic patient with empyema should be treated by thoracentesis to relieve the pressure and permit expansion of the lung. Occasionally in children the pus does not reform. As soon as the toxemia from the primary pneumonia or influenza has been succeeded by the toxemia and pressure from the empyema, evacuation and continuous drainage should be instituted. The simple introduc-

tion of one or two tubes through a dependent intercostal drainage proves insufficient, as it frequently will in adults, then the resection of 5 cm of one, two or three adjacent ribs will be necessary.

Public Health News

PHYSICIANS LICENSED BY THE STATE BOARD OF HEALTH, JUNE 27, 1935

By written examination: Dr. Aubrey Anslem Aden, Valley Park; Dr. Allie McCune Arrington, Decatur; Dr. Woodard Davis Beacham, Hattiesburg; Dr. James Gilbert Blaine, Jackson; Dr. Francis Fairley Burton, (col.) Meridian; Dr. Joseph Ciolino, Greenville; Dr. Ottis Brazel Crocker, Sarepta; Dr. Hugh Kimbriel Curry, Eupora; Dr. Sebron Culpepper Dale, Prentiss; Dr. William Colyn Golden, Walnut Grove; Dr. Paul Rogers Googe, Booneville; Dr. Everett Glenn Grantham, West Point; Dr. Wallace Arnold Hull, DeKalb; Dr. Robert Lee Johnson, Tupelo; Dr. John Morgan Kelum, Houston; Dr. William Henry Lacey, Holly Springs; Dr. Volney Richardson Liddell, Vicksburg; Dr. Onnie Preston Myers, Collinsville; Dr. Thomas Calvert Naugle, West Point; Dr. Joseph Glenn Peeler, Clinton; Dr. Wayne C. Pittman, Sweatman; Dr. Clarence D. Pritchard, Oxford; Dr. Emmett Ray, Kosciusko; Dr. Owen Royce, Jr., Isola; Dr. Gus Adolphus Rush, Jr., Meridian; Dr. Fred Monroe Sandifer, Jr., Greenwood; Dr. Earl Spinks Seale, Meridian; Dr. Robert Edward Stegall, Gulfport; Dr. Cecil Rhodes Walley, Jackson; Dr. Albert Gayden Ward, Jackson; Dr. Frank Alton Wood, Lena; Dr. Samuel Buford Word, Aberdeen.

By Reciprocity: Dr. Austin Howard Applewhite, Columbia, from Tennessee; Dr. Eldon Langston Bolton, Biloxi, from Georgia; Dr. LeRoy Bloch Brackstone, Iuka, from Tennessee; Dr. George A. Carmichael, (co.) Canton, from Tennessee; Dr. Lee McDonald Lipscomb, Jackson, National Board Medical Examiners; Dr. John Clifford McGuire, Hazlehurst, from Kentucky; Dr. Thomas W. Meriwether, Senatobia, from Tennessee; Dr. James J. Pittman, Tylertown, from Louisiana; Dr. Cecil Cullen Smith, Indianola, from Georgia; Dr. William J. Weatherford, Pascagoula, from Alabama; Dr. Lightfoot West, (col.) Horn Lake, from Tennessee.

The Commonwealth Fund has granted the following public health nurses in Mississippi four and one-half months scholarships for study: Mrs. Brooksie Peters, Rolling Fork; Mrs. Edna Edwards, Laurel; Miss Martha Rose Shearer, Lexington; and Miss Annabelle Leser, McComb. All will enter Vanderbilt University in September.

An institute on health education for public health nurses was conducted in Jackson, on July 1, 2, and 3, 1935, by Miss Cara Harris, Associate Professor Health Education, University of Tennessee. Knoxville, Ten-

JOHN W. RAGSDALE, M.D.
CHESTER D. ALLEN, M.D.
327 Medical Arts Bldg.
Memphis, Tenn.

Urology and Urological Surgery

nessee. Over one hundred public health nurses attended. Several private duty nurses attended many of the sessions.

As a delegate from the Mississippi State Medical Association, Dr. Underwood attended the meeting of the American Medical Association in Atlantic City on June 10-14. Other meetings in the East which Dr. Underwood attended during this month were: Conference of State and Provincial Health Authorities, June 15 and 16, in Atlantic City; the Surgeon General's Conference of state health officials in Washington on June 17 and 18, and a conference of public health officials on June 19 relative to planning for an expansion of the public health program under recent appropriations by Congress.

Sanitary Engineer, H. A. Kroeze, who is a member of the National Milk Committee, attended the Surgeon General's conference.

Miss Mary D. Osborne, R.N., associate director of child hygiene for the State Board of Health, has been notified by the Commonwealth Fund that she has been awarded a travel scholarship. Miss Osborne will leave the first of August and will visit the Commonwealth Fund Offices and the East Harlem Nursing and Health Service in New York; the health departments in Cattaraugus County, N. Y., and in Boston and Detroit. Several days will be spent in Tennessee at Vanderbilt University and observing the public health programs in Rutherford and Sullivan Counties, Tennessee. The last place on the itinerary is the University of Tennessee at Knoxville.

Miss Ora E. Phillips, R.N., Field Unit Nurse, has also been awarded a fellowship for travel to practically the same places Miss Osborne will visit.

Miss Elsie Smith, R.N., Supervisor of the Special Nursing Projects in part-time counties, has been granted a fellowship for a year's study at Columbia University. Miss Smith will begin her studies in September.

Miss Margaret Meade, R.N., nurse-investigator with the State Board of Health Epidemiological Unit, has been granted a scholarship for travel to places carrying on especially good Epidemiological programs.

Tuberculosis Abstracts

Tuberculosis of the larynx should be regarded not as a clinical entity but as a complication of pulmonary tuberculosis. This is the considered judgment of a laryngologist supported by an experience of twenty years in his field. He suggests the use of the term "laryngopulmonary" tuberculosis as more descriptive and fitting. His article in the April issue of the American Review of Tuberculosis is based largely on a statistical study of 500 cases. A brief abstract follows:

LARYNGOPULMONARY TUBERCULOSIS

Tuberculosis of the larynx is usually secondary to pulmonary tuberculosis. Cases with a so-called primary laryngeal lesion when sufficiently and properly investigated almost invariably reveal a primary focus of infection in the lungs. The author's observation has been that laryngeal tuberculosis occurs only in cases of pulmonary tuberculosis which at some time

in the course of the disease have a positive sputum. Laryngeal tuberculosis is highly improbable in cases in which the pulmonary lesion has become definitely arrested.

Diagnosis

The diagnosis of laryngeal tuberculosis is made on the basis of the usual objective pathological findings in the larynx, but only provided a diagnosis of pulmonary tuberculosis has been established. A laryngologist should have a complete report of the chest findings before definitely arriving at a laryngeal diagnosis. And his examination should not end with the larynx. Of course tuberculosis patients may also have non-tuberculous lesions in the larynx.

Prognosis

Both the (a) character and the (b) extent of the pulmonary condition influence the fate of the laryngeal lesion. (a) If the pulmonary lesion is of a severe and rapidly progressive type the prognosis of the laryngeal lesion is necessarily poor no matter how slight it may be. On the other hand if the pulmonary lesion is of the productive type even severe laryngeal lesions often heal. (b) The less advanced (pulmonary) cases always present a better prognosis than those in the advanced stages.

Aside from the pulmonary condition the prognosis in the acute type of laryngeal lesion should always be guarded. The acute lesion may become peracute with rapid destruction of the tissues of the larynx and with perichondritis. When complicated by tuberculosis of the pharynx, soft palate and tonsils, as is often the case, the patient dies within a few weeks from inanition and severe toxemia.

The disease may run a less severe course with a slight tendency to fibrosis. These patients usually suffer from hoarseness or aphonia and irritation in the larynx with constant desire to expectorate. If dysphagia occurs the prognosis is generally unfavorable. In sub-acute cases lesions are more amenable to local treatment and when other factors are favorable to local treatment and when other factors are favorable the prognosis is good. The chronic type is most hopeful; the voice may remain affected, but the length of the patient's life is probably not curtailed.

Other factors influencing the prognosis are location of the lesion, time of diagnosis, character and promptness of treatment, intercurrent disease, and the general condition of the patient.

Treatment

The treatment of laryngeal tuberculosis is chiefly the treatment of the lung lesion. The conservatism which still governs the treatment of pulmonary tuberculosis applies especially to tuberculosis of the larynx. Surgical procedures practiced on the tuberculous larynx have been almost entirely abandoned. While the scope of thoracic surgery is becoming wider, surgery of the larynx is now being limited to the ex-

DR. E. C. ELLETT

DR. R. O. RYCHENER

Ophthalmology

1720 Exchange Building
Memphis, Tenn.

ceptional cases.

The treatment should be (1) preventive; (2) general, or indirect; and (3) local, or direct.

(1) Every patient with active pulmonary tuberculosis with a positive sputum should be considered a potential case of laryngeal tuberculosis. Therefore, every measure designed to arrest the pulmonary lesion helps to prevent laryngeal tuberculosis. Collapse therapy, the author believes, successfully applied in the carefully selected cases, invariably prevents the occurrence of laryngeal tuberculosis. In 5,382 cases of pulmonary tuberculosis in which collapse therapy had been employed in various parts of the United States, laryngeal tuberculosis developed in only twelve cases; and in these twelve cases the collapse was inadequate to arrest the disease.

Abnormal conditions in the upper air-passages, such as nasal obstructions, inflammatory conditions in the naso-pharynx, diseased tonsils, should be corrected. Excessive use of tobacco and excessive use of the voice will often cause a catarrhal condition, thereby lowering the local resistance of the larynx.

(2) Each case should be individualized and the pulmonary lesion should be given intensive study. Bed-rest is still our mainstay, but we now have in addition collapse therapy. Heretofore, laryngeal tuberculosis was considered a contraindication of collapse therapy. The author feels convinced that the presence of laryngeal tuberculosis should never be considered a contraindication of collapse therapy. He believes on the contrary that laryngeal tuberculosis makes the indications for this form of treatment so much more urgent. No effort should be spared to build up the resistance of the patient by the usual methods.

(3) Vocal rest is of primary importance in the local or direct treatment, especially if the laryngeal lesion is of the acute or subacute type. Chronic lesions do not seem to be harmed through the moderate use of the voice.

Cauterization, the method of choice, especially when the lesion is localized, promotes fibrosis and healing and often relieves pain. The cases that are suitable for cauterization are few, but a large proportion of them are cured. When cauterization is insufficient to relieve dysphagia, nerve blocking with alcohol gives relief for several weeks or months.

Heliotherapy has been reported successful, but the evidence at hand is not convincing. Mental suggestion may account for some good results. The method is not without its dangers and, on the whole, unnecessary in a well ordered sanatorium. Local medication is of slight value. Sprays, consisting of menthol, oil of chaulmoogra, and abalone will often relieve the patient of discomfort in the larynx and may be used freely by the patient himself.

Statistical Summary

"A group of 500 cases of pulmonary tuberculosis was examined twenty years ago. Whereas, the incidence of laryngeal tuberculosis in 1914 was 25.6 per cent, the incidence in 1934 was found to be 14.6 per cent.

"This pronounced reduction in the frequency of the occurrence of laryngeal tuberculosis can readily be explained by the improved methods of diagnosis and the consequent earlier application of treatment;

also by the improved methods of treatment. Whereas collapse therapy was not employed in any of these cases in 1914, it was employed in 20 per cent of the cases of the present group."

Laryngopulmonary Tuberculosis, Julius P. Dworetzky, Am. Rev. of Tuberc., April, 1935.

The Mississippi State Hospital Association

LEON S. LIPPINCOTT, M.D., Editor—Vicksburg
KATE LOU LORD, R.N., Associate Editor—Hattiesburg

Dr. H. A. Gamble, president, Mississippi State Hospital Association, has appointed committees for the year of 1935-1936 as follows:

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Suite 1500-06 Commerce Title Bldg.
Memphis, Tenn.

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MENTAL HOSPITALS: J. M. Acker, Jr., M.D., Chairman, Mississippi State Hospital, Whitfield; F. F. Long, M.D., Oktibbeha Hospital, Starkville; Dr. M. H. McRae, McRae Hospital, Corinth; H. N. Mayes, M.D., Mayes Hospital, New Albany; F. G. Riley, M.D., Dr. F. G. Riley's Hospital, Meridian; Miss Mary E. Cook, R.N., Tupelo Hospital, Tupelo; Mrs. Tama B. Tatum, Jackson Infirmary, Jackson.

PUBLIC RELATIONS: E. C. Parker, M.D., Chairman, King's Daughters' Hospital, Gulfport; Mrs. Maud E. Varnado, R.N., Laurel General Hospital, Laurel; P. L. Fite, M.D., Fite Hospital, Columbus; C. E. Catchings, M.D., Woodville; George A. Brown, M.D., Water Valley Hospital, Water Valley; Henry Boswell, M.D., Sanatorium; Mrs. K. T. Klein, Meridian Sanitarium, Meridian; Omar Simmons, R.N., Newton.

MINIMUM STANDARDS: B. B. Martin, M.D., Chairman, Vicksburg Infirmary, Vicksburg; Miss Mary E. Dorsey, R.N., King's Daughters' Hospital, Greenville; W. Jeff Anderson, M.D., Anderson Infirmary, Meridian; C. M. Speck, M.D., New Albany Hospital, New Albany; L. B. Morris, Macon Hospital, Macon; E. W. Holmes, M.D., Winona Infirmary, Winona; T. E. Ross, Jr., M.D., Methodist Hospital, Hattiesburg; W. H. Sutherland, M.D., Northeast Mississippi Hospital, Booneville; Miss W. B. Rankin, R.N., Columbia; W. K. Stowers, M.D., Natchez Sanatorium, Natchez; H. F. Shands, M.D., Baptist Hospital, Jackson.

NURSES AND NURSING: A. Street, M.D., Chairman, Vicksburg Sanitarium, Vicksburg; Miss Kate Lou Lord, R.N., Methodist Hospital, Hattiesburg; W. W. Diamond, M.D., Magee General Hospital, Magee; Mrs. Hattie G. Bauter, R.N., Natchez Sanatorium, Natchez; J. C. Culley, M.D., Oxford Hospital, Oxford; Mrs. Etta Dudley, R.N., Grenada Hospital, Grenada.

PUBLICATION: Leon S. Lippincott, M.D., Chairman, Vicksburg Sanitarium, Vicksburg; J. K. Avent, M.D., Grenada Hospital, Grenada; Felix J. Underwood, M.D., Jackson.

HOSPITALIZATION INSURANCE: V. B. Philpot, M.D., Chairman, Houston Hospital, Houston; H. Lowry Rush, M.D., Rush's Infirmary, Meridian; E. E. Benoist, M.D., Natchez Sanatorium, Natchez; Mrs. Karenza Gilfof, Baptist Hospital, Jackson; I. C. Knox, M.D., Vicksburg Hospital, Vicksburg; R. H. Cranford, M.D., Laurel General Hospital, Laurel; Mrs. Lettie Usher, R.N., Aberdeen Hospital, Aberdeen; Miss Sue Collins, R.N., Biloxi Hospital, Biloxi.

HOSPITAL TAXATION: G. D. Stanley, Chairman, King's Daughters' Hospital, Greenville; J. Rice Williams, M.D., Houston Hospital, Houston; W. H.

Parsons, M.D., Vicksburg Hospital, Vicksburg; K. T. Klein, M.D., Meridian Sanatorium, Meridian; B. T. Whitfield, Corinth Hospital, Corinth; Walter LeRoy Legg, Geo. C. Hixon Memorial Hospital, Electric Mills; Sidney A. Head, Columbia; Miss M. F. Cotter, Jackson Infirmary, Jackson.

HOSPITAL STAFF RULES AND REGULATIONS: J. P. Waill, M.D., Chairman, Baptist Hospital, Jackson; A. J. Stacey, M.D., Tupelo Hospital, Tupelo; Ashton Toomer, Houston; Louise Francis, R.N., Clarksdale Hospital, Clarksdale; G. M. Street, M.D., Vicksburg Sanitarium, Vicksburg.

MINIMUM STANDARDS

COMPLIANCE—48 Member Hospitals—Compiled from Statements of these Hospitals—1934.

1. Are your hospital buildings modern and efficient and are they separate and apart from other buildings and operated solely for hospital purposes?

Answers: Yes, 46

"Not modern but efficient," 2.

2. Are the physicians and surgeons privileged to practice in the hospital organized as a definite group or staff, the word "staff" to include all doctors who practice in the hospital?

Answers: Yes, 40

No, 6

No answer, 2.

3. Is membership upon the staff restricted to physicians and surgeons who are:

(a) Full graduates in medicine?

Answers: Yes, 48.

(b) Members of their Medical Society?

Answers: Yes, 43; No, 5.

(c) Members of the Mississippi State Medical Association?

Answers: Yes, 45; No, 4; No answer, 1.

(d) Competent in their respective fields?

Answers: Yes, 47; No, 1.

(e) Worthy in character and in matters of professional ethics?

Answers: Yes, 48.

(f) Is the practice of the division of fees, under any guise whatever, prohibited?

Answers: Yes, 37; No, 8; No answers, 2; "If done, I do not know it," 1.

4. Has the staff adopted rules, regulations and policies governing the professional work of the hospitals?

Answers: Yes, 30; No, 16; "Gentlemen's agreement," 1; "Conforms to rules of American College of Surgeons," 1.

Request: Please attach copy of rules, regulations and policies. Eight hospitals complied.

5. Have all members of the staff read and signed these rules, regulations and policies?

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- Answers: Yes, 24; No, 6; No answer, 17; "Agreed upon," 1.
6. Are staff meetings held at least **once** each month?
Answers: Yes, 31; No, 13; No answer, 2; "Usually," 1; "Yes, except summer vacation," 1.
7. At the monthly staff meetings, does the staff review and analyze clinical experiences in:
- (a) Medicine?
Answers: Yes, 33; No answer, 13; "Not always," 1; "Done daily," 1.
 - (b) Surgery?
Answers: Yes, 33; No answer, 13; "Not always," 1; "Done daily," 1.
 - (c) Obstetrics?
Answers: Yes, 33; No answer, 14; "Done daily," 1.
 - (d) Other Specialties?
Answers: Yes, 32; No answer, 15; "Done daily," 1.
8. Are accurate and complete records written for all patients?
Answers: Yes, 41; No, 2; No answer, 1; "Fairly so," 1; "It is urged and some do," 1; "Except emergencies and accidents," 1; "Accurate, not complete," 1.
9. Are clinical records filed in an accessible manner in the hospital?
Answers: Yes, 48.
10. Do all clinical records include at least:
- (a) Identification Data?
Answers: Yes, 41; No, 1; No answer, 6.
 - (b) Complaint?
Answers: Yes, 41; No answer, 7;
 - (c) Personal History?
Answers: Yes, 42; No answer, 6.
 - (d) Family History?
Answers: Yes, 41; No answer, 6; "Not always," 1.
 - (e) History of Present Illness?
Answers: Yes, 41; No, 1; No answer, 6.
 - (f) Physical Examination?
Answers: Yes, 39; No answer, 9.
 - (g) Consultations?
Answers: Yes, 36; No answer, 6; "When necessary," 2; "When desired," 2; "When indicated," 1; "Not compulsory," 1.
 - (h) Clinical Laboratory?
Answers: Yes, 39; No, 1; No answer, 6; "When indicated," 2.
 - (i) X-ray?
Answers: Yes, 36; No answer, 6; "When necessary," 3; "When indicated," 2; "Not always," 1.
 - (j) Provisional Diagnosis?
Answers: Yes, 40; No, 1; No answer, 7.
 - (k) Medical and Surgical Treatment?
Answers: Yes, 42; No answers, 6.
 - l) Gross Pathological Findings?
Answers: Yes, 18; No, 4; No answer, 7; "Only limited number," 1; "When necessary," 4; "Not all," 1; "When indicated," 5; "Suspicious cases," 3; "Most of times," 1; "When specimens are sent to pathologist," 1; "If made," 2; "When obtained," 1.
 - (n) Progress Notes?
Answers: Yes, 38; No, 2; No answer, 5; "At times," 1; "Mostly as nurses notes," 1; "When I can get them written," 1.
 - (o) Final Diagnosis?
Answers: Yes, 41; No, 1; No answer, 6.
 - (p) Condition on Discharge?
Answers: Yes, 41; No, 1; No answer, 5; "In most cases," 1.
 - (q) Follow-up?
Answers: Yes, 21; No, 11; No answer, 10; "Not all," 2; "Only at times," 1; "When possible," 1; "Occasionally," 1; "Sometimes," 1.
 - (r) Autopsy Findings?
Answers: Yes, 23; No, 11; No answer, 8; "When done," 1; "Rarely," 1; "If any," 1; "Some," 1; "Where indicated," 2.
11. Do diagnostic and therapeutic facilities under competent supervision include:
- (a) Clinical Laboratory?
Answers: Yes, 44—Director: M.D., 20
Technician, 16
R.N., 7
Not given, 1
No, 1
"County laboratory," 2
"State laboratory," 1.
 - (b) X-Ray Laboratory?
Answers: Yes, 48—Director: M.D., 36
Technician, 6
R.N., 3
Not given, 3.

Report of Meeting of the

SIXTY-SIXTH ANNUAL CONVENTION

American Medical Editors and Authors Association

Atlantic City, June 15, 1935

The convention was called to order by the President, Dr. Dean Lewis who introduced the Guests of Honor.

Hon. Harry Bacharach, Mayor of Atlantic City, welcomed the membership and presented the Association with a key to the City. The other Guests of Honor, Hon. Edward A. Kenny, U. S. Congress, Hon. Shirley Wynne, M.D. former Commissioner of Health and Hon. S. S. Goldwater, M.D. Commissioner of Hospitals, New York, were next introduced.

Dr. Frederick L. Patry, psychiatrist of New York State Department of Education made a plea for the family physician to increase his knowledge of psychiatry in order to handle more scientifically cases of neurosis due to family friction. Doctors A. A. Brill, New York psychoanalyst and K. Winfield Ney, New York Brain Surgeon added to Dr. Patry's suggestion by citing many cases and examples of the results following the proper use of psychiatry in such cases.

Dr. Shirley Wynne told the Association that it

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was inevitable that a realignment would occur relative to the way medical service would be distributed in the future. At present it is a question whether there will be voluntary or compulsory insurance. State Socialized Medicine looms in the background.

The problems of the Medical Editor were handled by Dr. Geo. Lake, Editor of Clinical Medicine. Much enthusiasm was developed concerning his copyright plan to eliminate the throw-a-way journals. He stated that Editors should cooperate with the efforts of the Association in their belief.

The problems of the Medical Publishers were cleverly handled by Mr. Paul Hoeber. His address gave an answer to many authors as to why contributions which they considered par excellence were not accepted for publication.

After a get-to-gether luncheon Dr. S. S. Goldwater told the Association of the Hospital Problems he had to contend with. He said that the institutions needed \$10,000,000 to continue their work and added that facilities were particularly inadequate for the care of chronic and venereal patients. He said that with the majority of internes receiving but little money from home, owing to the depression, and getting no salaries they were finding it difficult to continue their training.

Dr. Dean Lewis, President of the Association addressed the Congress on "Improving the Quality of Medicine." In his address which members will long remember he touched on the subject of fee splitting—a practice he abhorred but would condone if done openly. He said that those who wanted to split fees invariably insisted on secrecy.

Dr. H. Lyons Hunt, Director-General of the Association closed the program with a report on the financial status and informed the Convention that since Jan. 1, 1935, 220 men were proposed for membership in the Association, of which number 48 had been elected.

At the close of the convention, resolution was passed putting the Association on record "as basically and fundamentally opposed to State medicine, because it lessens the efficiency of service to the public and the dignity of the profession."

A Worth-While Movement

Mississippi physicians, in the areas surrounding Cleveland, Greenville, Rolling Fork, and Yazoo City, began going to school again today to close up the gaps that have appeared between their knowledge and new scientific discoveries.

They deserve the heartiest commendation for supplying themselves with this post-graduate medical education, which is being conducted in circuits over the state.

The delta region is the third circuit of the present course in post-graduate obstetrics, and it has already enrolled the largest number of physicians for the lectures to be held on one day each week in the five different centers for Bolivar, Coahoma, Yazoo, Washington, Issaquena, and Sharkey counties.

Dr. Maxwell E. Lapham, from the University of Pennsylvania Medical School, an outstanding obstetrician, has been connected with this new medical

department since the first of the year, and conducts the lectures and clinical demonstrations which constitute the course.

Designed to bring annual field courses in obstetrics, pediatrics, minor surgery, general medicine, gynecology, and dermatology to the busy practitioner out in the state, the committee on post-graduate medical education was named by the Mississippi State Medical Association. Its executive agency maintains its offices and a secretary, Q. Edward Gatlin, here in Jackson.

Obstetrics was selected as the course to be offered during the first year of the post-graduate plan, because the committee felt that this was the most important subject at present. Prenatal and postnatal instruction for physicians will materially reduce the maternal and infant mortality rates, and aid in production of a healthier progeny.

Mississippi physicians are not backward or untrained. On the contrary, this state boasts some rare medical talent, but with the rapid advancement in medical research and medical development, there are constantly new advances in application and improvements. It is laudable that the physicians themselves, through their own association, should establish an organization whereby local physicians may receive in their home town the best possible instructional courses bringing to them practical presentation of the latest advances in their scientific field.

Other states have already made inquiries into this worthy undertaking, which is so badly needed throughout the country. Mississippi is a leader in this field, as only Virginia has conducted a similar course. Dr. Lapham was in charge of the obstetrics division there also.

Dr. Lapham's classes have already been held in two circuits, the first having had Natchez, Centerville, McComb, Columbia, and Silver Creek as centers, and the second, Shubuta, Bay Springs, Newton, Philadelphia, and Carthage. Attendance averaged higher than 80 per cent. Several hundred physicians have enrolled in the classes beginning today in the delta, and 15 medical groups in other parts of the state have already requested that they be put on a circuit.

This is pioneer work. It is only a beginning. The problem of post-graduate medical training in Mississippi has been solved, with the enthusiastic support of the laymen, through efforts of the physicians themselves.

It is a great service to Mississippi. Once more, the medical profession guarantees to the public that it is a high calling, and that its members regard the power to heal as second only to nature's marvelous recuperative powers and divine ministration.—Editorial, Jackson Daily News, June 10, 1935.

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Letters to the Editor

Editor Mississippi Doctor,
Booneville, Miss.,
Dear Sir:

I wonder if I may have sufficient space in your journal to sound a note of warning? If so, I thank you.

First, please permit me to suggest that since its adoption as the official organ of The Mississippi State Medical Association, a great responsibility rests upon you and your journal. The doctors who constitute the membership of the association and who expressed their confidence in you and your ability by awarding a three year contract to you, are looking to you and the Journal to guard and protect their interests at all times and in every possible way that is fair and honorable. You promised to do this. I have faith to believe you will do this. But I feel that you will appreciate a warning that I think is timely, from one who has long felt a deep interest in the welfare of organized medicine. I think there is danger ahead. We see warnings along our highways such as these: "Danger, narrow bridge;" "Drive slowly, school zone;" "Right or Left Curve;" "Construction work under way." I think you might well adopt any or all of these warnings as slogans.

This is an age of change and commercialism is entering into and corrupting all lines of human endeavor. May heaven grant that our profession may be kept clean and free from this deadly canker

Just a hint as to the danger that I see in the offing. Medicine as an art, a science and a profession and doctors of medicine have lived and served the world for centuries. Hospitals are of comparatively recent date. They have been established to enable doctors to better serve the world. They are, of course, of secondary importance and only when controlled by doctors and used by them as a means of furthering the development of medical science and alleviating human suffering, have they any right to exist or should they be tolerated. Hospitals should never be built or maintained with the idea of becoming a profit making enterprise. When such an idea or purpose is permitted to enter or dominate the equation, in my opinion, a hospital become a nuisance and as such should be abated. Since hospitals are institutions for developing medical science and alleviating human suffering, they are, and should be recognized as, public utilities and all legitimate expense of construction and maintenance should be borne by the public. Every county in the United States has, or is supposed to have, a court house—a workshop for lawyers. Some counties have more than one. Why should doctors not be provided with a workshop where better service can be rendered? Who ever heard of a "Closed Staff" court house? Doctors can get along without hospitals, they did it for centuries. I, myself, have done successful surgery, both brain and abdominal, in the homes of my clientele. A hospital could not exist and function without doctors.

Now to my point: When hospitals sell contracts for hospital and professional service, or for that matter sell individual or group insurance for hospitalization alone, in my thinking, they enter the domain of commercialism and their interests become antago-

nistic to the interest of ALL doctors who are not a party to the contract. It will not serve the best interest of those who buy these contracts. The scheme is wrong in principle—it is in violation of professional ethics made sacred by centuries of precedent. Doctors take notice your rights are being place in jeopardy.

So I sound this warning: GO SLOW—THERE IS DANGER AHEAD.

G. S. BRYAN

Amory, Miss.

Doctor W. H. Anderson
Booneville, Miss.

Dear Doctor Anderson:

While of course we hate to see our Journal, the New Orleans Medical and Surgical lose the contract for the printing of the Mississippi State Society transactions yet we want to congratulate you upon being the winner. If you carried on as splendidly as you did with the Mississippi Doctor henceforth we can expect big doings by that splendid Journal.

Best wishes.

Yours sincerely,

F. F. YOUNG, M.D.

Dr. Young, we thank you very graciously for this letter and the spirit which it contains.

Dear Editor:

When Dr. Fletcher brought home the last issue of your magazine for me to read the poems, of course I wished one of mine was among them.

If you could use any of the verse enclosed, it would make me very happy.

I plan to read your "Let Me Walk With the Man in the Road" on my radio scrapbook which I read over KTHS on Friday mornings at 8:30 and over XLRA (Little Rock) two mornings a week, with an occasional week-end broadcast over WMC.

Your poem, so like the "House by the Side of the Road," impressed me very much because on two occasions I have had the pleasure of being a guest on Tony Wons scrapbook broadcast. Once over Columbia in New York and last November over NBC in Chicago. As you probably know that is the poem Tony uses on his Sunday afternoon commercial broadcast.

Cordially yours,

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No white coat here! His old blue shirt
Is torn and faded, streaked with dirt.
And as he trains a climbing rose,
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The staff of physicians of this Institution are all members or Fellows of the American Medical Association and its subordinate societies. They are physicians, who after having graduated in medicine, have had the best of medical training in the large graduate schools of medicine and hospitals of the East and are especially prepared for their respective specialties. These physicians give their entire time to the patients in the sanitarium doing no outside work.

Its clinical and pathological laboratory is complete and under the supervision of two of the best pathologists in New Orleans.

Correct diagnosis is the key note for the New Fenwick Sanitarium—no half way, and haphazard diagnosis is made here.

The methods of examination are most thorough. Each patient is given a complete Mental, Neurological and Physical examination including all laboratory examinations. Treatment is individual for each according to indications.

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In the last forty-three years, it has studied and treated many Liquor and Drug Addicts.

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This Institution is patronized by the better class of people. Its services are offered to the discriminating physicians for the type of patients named above as a high class Institution in every sense and meaning of the word.

It is located in Covington, Louisiana, a section so noted for its health qualities, and is easily accessible by concrete highways, railroads and water routes. It is only one hour and a half by automobile from the center of New Orleans.

THE MISSISSIPPI DOCTOR

OFFICIAL ORGAN

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 13.

BOONEVILLE, MISSISSIPPI, AUGUST, 1935

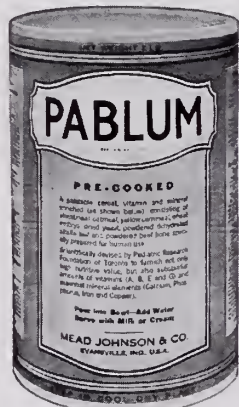
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Moisture.....	7.0	8.0	10.9	35.3	87.0	73.7	
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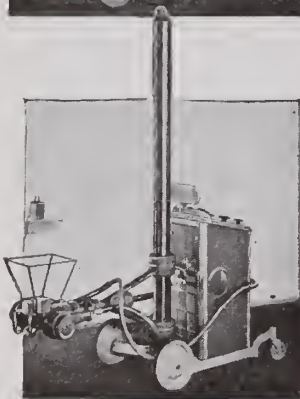
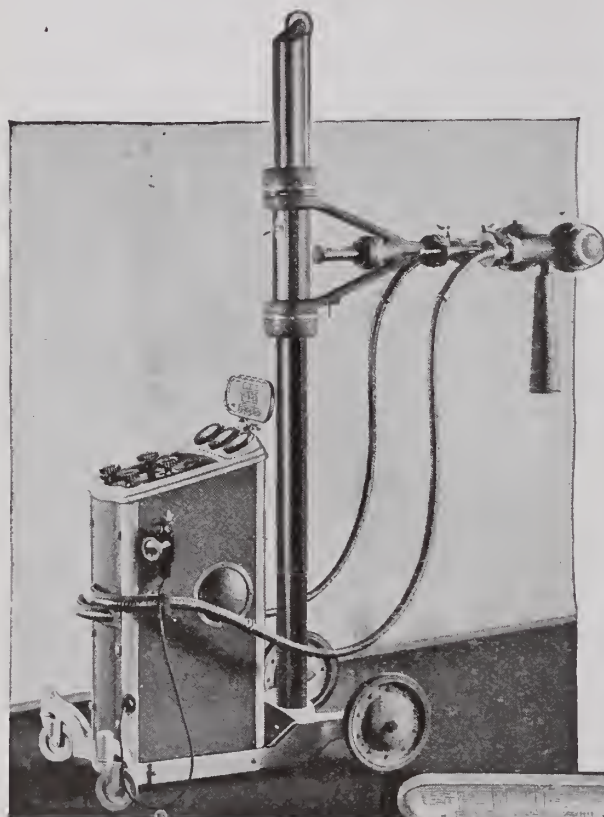
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EDITORIALS

The late Doctor W. D. Beacham, of Hattiesburg, was one of the very fine characters of the medical profession of Mississippi. For many years he was an able practitioner. At the time of his death he was a most efficient and enthusiastic worker in the field of public health. His mind was well trained and his heart was warm and sympathetic. He was an inspiration to his sons and started them on the right road. He was a graduate of Tulane, 1899. We are sure that the way the sons are carrying on is the highest tribute they can pay to his memory. They are no doubt bringing much happiness and satisfaction to their fine mother. Woodard D. Beacham is the third son to receive his M.D. degree. Dr. Hugh Thompson Beacham was the first. He is now assistant professor of urology at the Louisiana State University School of Medicine. He graduated in 1927. He was awarded the Master of Science degree in Surgery by Tulane in 1931. Dr. Aubrey V. Beacham received his medical degree last year and is now an interne in the Charity Hospital in New Orleans. He graduated from Millsaps with high honors in 1929. Doctor Woodard, the last to graduate, received his B.A. and B.S. from the University of Mississippi with distinction. He was senior speaker in 1933. His grades at Tulane were among the highest. At the centennial commencement exercises he was awarded the Dr. John Herr Musser prize for the best senior thesis. He is now interning at the Charity Hospital in New Orleans. Young Woodard Beacham really had the highest average in the class of 122. His grades at Ole Miss were not allowed to count, however. He has a wonderful record in scholarship. In citizenship and character the young men stand at the top. The medical profession of Mississippi feels proud of them, we are sure. Personally we feel a great interest in these young men. They have the traits of mind and heart to carry the banner high in a great profession.

You will note the partial program of the Mid-South Post Graduate Medical Assembly which will meet at the Peabody Hotel in February. This is a post graduate course in four days. The very best men in the United States will be with us. This is a post graduate course that is good for every one. It is all under one roof. There is no lost motion. It has a broadening influence on every one. It is good for the general practitioner. It helps him to keep his bearings on any subject. It gives the heart of the subject for the specialist. The professional fellowship at Memphis is fine. The doctors are cordial and generous entertainers. The culture of the Old South lingers in the Memphis atmosphere. The hotels are the very best to be found. Hold yourself in readiness for the professional feast and the social tonic. Keep in mind the Mid-South.

To treat a patient successfully you must not only have a working knowledge of the attacking organism, but you must know the individual human in all of his relations to the world in which he actually lives.

The successful practice of medicine means hard work and persistency in every detail.

HOSPITALS SHOULD NOT PRACTICE MEDICINE*

In about forty cities in the United States plans have been adopted or are about to be adopted to put into force a Hospital Service Plan called "three cents a day for hospital care."

Groups of at least ten persons, half of whom must be employed, may join. There are no occupational restrictions or salary limitations. Professional people, artists, writers and musicians will be eligible to join. . . . No one more than 65 years old will be accepted. . . . There is no financial investigation, no red tape, and no physical examination. . . . By the payment of 90 cents a month, usually by deduction from your pay, with at least nine others in your group, you may assure yourself of this protection.

We have quoted from a prospectus of such a plan.

The plan (most of the plans are identical for the most part) offers bed and board in a semi-private room (the hospital is paid \$6 a day per patient, as a rule), general nursing care, routine laboratory examinations, ordinary x-rays, use of operating room, maternity care, routine medications and dressings, general anesthesia (when such service is supplied by the hospital) and all other customary routine medication and hospital service which may be prescribed by the physician during the period the patient is in the hospital. The plan provides for twenty-one days of hospital care in any year, and should it be necessary to remain in the hospital beyond twenty-one days, the patient will receive a discount of 25 per cent off regular hospital charges.

All in all, a splendid plan of insurance for hospital care in case of sickness. The "small payment plan" is not run for profit. One prospectus says, "Under this plan, you (the patient) must make separate arrangements with your personal physician regarding his fee, as the cost of his services is not included in the hospital service plan."

In New York State the State Insurance Law was amended to permit this plan to be placed in operation. The present rates to be charged the subscriber have been approved by the State Department of Insurance.

This plan was first tried at Dallas, Texas, and has been in force about five years. We learn from physicians in Dallas that one objection to the plan has been that it has caused over-hospitalization. Too many patients have sought hospital care who were not hospital cases in the true sense of the term.

However, admirable as the plan is, and no doubt the idea will spread, and those who subscribe will not have the worry of meeting hospital bills, there are a few specks in the ointment.

Inasmuch as one plan is about similar to other plans we quote a paragraph from a contract before us:

Hospital care, as the term is used herein, includes bed and board, general nursing care, use of the operating room, ordinary dressings and medications, anesthesia, when such service is supplied by the member hospital and administered by a salaried employee of the hospital, laboratory examinations consisting of urine examinations, com-

plete blood count, basal metabolism, stool examinations and examinations of pathological tissues, and ordinary x-ray examinations and other routine care. . .

In most States corporations cannot practice medicine. Only the individual duly licensed can practice medicine. The hospital, a corporation for simplicity, can give a patient a bed and board and nursing care, but there it must stop. It can hire technicians to take x-rays or to stain and cut and mount tissue, or do blood counts, but only a licensed physician can interpret such films or reports. A technician can report a white cell count of 30,000 but he cannot say peritonitis is present; a technician can stain and mount tissue but he cannot make a diagnosis of carcinoma. The distinction is obvious.

When this type of plan becomes universal the physician who has seen his practice taken from him, in part, by pay and free clinics and other agencies, will have a pernicious set-up to combat. In this plan provision is made to look out for the patient, the hospital is paid, but the physician must enter into a contract regarding his fee. If we close our eyes and permit hospitals to practice medicine, if the hospital is permitted to take x-rays and make diagnoses, and interpret laboratory findings, in their desire to benefit by receiving the greatest number of patients, the first thing we know the physician in practice will be out in the cold. How easy for an interne or a resident to assume the responsibility for the patients admitted under this plan. One can imagine further and see the hospital staff men hovering in the background as guardian angels to guide the internes, if necessary. This is splendid in the case of free clinic patients; but under this plan the patient is through the Hospital Service Company paying the hospital \$6.00 a day. He or she is a private patient. Only a licensed physician should be in charge.

In many places hospitals are practicing medicine. Call it by some other name but after one gets down to rock bottom they are competing with the doctor. In Brooklyn, N. Y., for example, eleven hospitals accept obstetrical cases for a flat fee. For example, a pregnant woman applies for hospital and obstetrical care. If she can pay fifty, sixty or seventy dollars (and no questions asked) she is accepted. An interne, resident or in some cases an attending obstetrician cares for her, all for the flat sum paid. The hospital gets the entire fee. The patient is not considered a charity patient. In the same city, seventeen hospitals admit patients for the removal of tonsils and adenoids under the same plan (it averages about \$15 or \$20 in full); and five hospitals contract to give a course of treatment for the relief or cure of hay fever.

The Economic Commission of the Medical Society of the County of Kings (N. Y.) decided, in part, as follows: (1) That the Director of the Plan and his staff of assistants and salesmen be urged to clearly state and explain to prospective subscribers that the services of a physician are not included in the plan. (2) That coercion by subscribers, hospital officials or lay organizations to achieve hospitalization for that type of illness that ordinarily would be cared for by a physician at home without hospitalization will not be tolerated. (3) That recommendation for hospitalization

*Editorial from The American Journal of Surgery, New Series, Vol. XXIX, No. 1., July, 1935.

should be honored from a practicing private physician only, and that every effort should be made . . . to prevent their being honored when they emanate from dispensary or admitting room officials, interns or residents, or paid physicians employed by the hospital.

(4) That the hospitalized subscriber is the patient of the staff physician only, and except by his direction no medical or surgical care may be rendered by the interne, resident or paid physician on the staff of the hospital.

When this matter comes before the County Medical Societies throughout the country they would do well to endorse the inclusion among the benefits to be rendered to the subscribers those services which are basically institutional functions, but not endorse inclusion of any services which may be interpreted under the law as constituting medical practice.

THURSTON SCOTT WELTON.

You will note the likeness of Dr. Hugh A. Gamble, of Greenville on the front cover. He is an ex-president of the Mississippi State Medical Association and is now president of the Mississippi State Hospital Association. Dr. Gamble is native of North East Mississippi. He is a tireless worker. He has forged to the front in the profession. He has rendered much service to organized medicine in his state. He has the professional mind, the medical soul and the missionary heart. His hand shake does you good. He is bouyant in spirit and optimistic in his outlook. He is an active and useful citizen. He is a son of Mississippi worthy of any honor and his efforts are appreciated by the state medical association as well as the hospital.

Dr. James C. Green, of Tupelo, son of Dr. and Mrs. James H. Green, completed his internship in Cleveland City Hospital, Cleveland, Ohio, July 1, 1935. He took his literary degree and his first two years in Medicine at the University of Mississippi. He received his medical degree at Tulane, June 6, 1934. He has made a fine record all along. His father is an able practitioner and a fine citizen. Young Dr. James is now associated with Gamble Brothers and Montgomery at King's Daughters' Hospital and Gamble Clinic. Greenville is an outstanding medical center in Mississippi. Dr. Green will be one of the leaders in organized medicine of the future.

The annual commencement celebrating the one hundredth anniversary of the founding of Tulane University found Mississippians in leading roles. Dr. John M. T. Finney, native of Natchez and surgeon of great renown, presented the commencement address at the exercises on Wednesday, June 12th. Dr. C. C. Bass, born in South Mississippi and Dean of the Tulane Medical School, awarded the medical diplomas. And, Dr. William Mercer Green, Episcopalian Bishop of Mississippi, delivered the baccalaureate.

The small hospital trains much better nurses for the average patient than the large one. Please keep this in your mind. We need nurses to work in the world we have, not in the imaginary and the very few cities.

The Fourth Circuit Post Graduate Course in Obstetrics by Dr. Maxwell E. Lapham, of Philadelphia, is now in progress. The tinerary is as follows: Mondays, Corinth; Tuesdays, Booneville; Wednesdays, Tupelo; Thursdays, New Albany; Fridays, Holly Springs. In these courses the School of Medicine of Tulane, the Mississippi State Board of Health, and the Mississippi State Hospital Association are cooperating. We believe it is a great step in the right direction. It is the beginning of many post graduate courses that will be carried out to the commercial firing lines. The small hospital is each county, or two or three counties, will be the medical center. Post graduate work will be brought out to the busy practitioner. Out on the commercial firing lines we find some of the ablest practitioners. Worlds of fine clinical material may be found. The idea of educating the practitioner right at home is a bright one. It will mean the proper distribution of the medical profession. Education is being carried out to the people. It is the best way to do much of it. No man gets too old to learn, not in the medical professin. We stay in school. The small hospital is the answer to modern medicine for the masses in the rural communities at a reasonable cost. The cities have been crowded too much with doctors. The population has been engorged. Rural schools must be further developed. The little church by the side of the road must be recovered and repainted. Main street in the small town must be rebuilt and made a little White Way. Due consideration must be given to the little hospital. Electricity is on its way to the country, out to the cross roads and all of these things can and will be added. Catch the vision and lend our aid. The general practitioner is the corner stone of the medical profession and should do eighty-five per cent of the practice.

If you have not done so it would do you good to visit the headquarters of the American Medical Association, at 535 N. Dearborn, Chicago. It is a great plant. You will see more than five hundred very busy workers, see system that moves like clock work, and meet with courtesy and cordiality at every turn. The imensity of the proposition will astound you. Pride will well up in your heart. Surprise will overcome you, and you will marvel at how much is being done for your benefit. You will feel sorry that more use has not been made of it all. Behind and above all is Dr. Fishbein, editor of the American Medical Journal and Hygeia. Another personage quite as important is close on the job, Secretary Dr. Olin West, formerly of Tennessee. His face has the battle lines of many encounters and there is evidence of both victory and defeat. He stands upon a mountain of rich and varied experience with his steel gray eyes focused on the grave medical problems marching on the profession. He is steadfast of purpose. His determination is strong, but you can tell he is not altogether optimistic. He seems to scent a hard battle. Every practitioner should utilize the benefits that may be had from the American Medical Association. We should join hands with it, help and be helped.

If the rank and file of the people who need medical attention could afford it and knew how important it was to have it done the medical profession would be swamped with more than it could possibly do.

Lee Denson, of Jackson, has been interested in group insurance for the doctors for several years. A doctor in North East Mississippi as the story came to us, wrote him to come to see him that he wanted to take out some insurance. He went. The doctor was down at the barn seeing about some of his stock. I have come to write your insurance, Doctor. Well, I wrote for you. I need some insurance. I have the money to pay for it, but I am not going to take it. I have changed my mind. I am sorry you had the expense of coming to see me. Well, Doctor, would you mind explaining why you changed your mind? No, he replied. I have my home. have it paid for. I have this little office and several hundred dollars worth of medicines. They are paid for. The people for whom I practice made this possible. They are getting sick just the same now. The depression is on. Many of them cannot pay, cannot even pay for their medicine. I will take no insurance. I will furnish them medicine as long as I have it. If we all go down we will go together. This doctor is J. S. Wheeler, of Tishomingo, a cripple, but a very active practitioner. Such valor as this has never been surpassed on any battle field. It tells a story that many doctors need to know. Glory and honor to this anointed of the profession, a general practitioner, the corner stone of the medical profession, a man with a professional mind, a medical soul and a missionary heart.

Dr. Matthew J. L. Hoyle, of Meridian, has opened his Sanitarium for the treatment of Nervous and Mental Diseases, Drug and Alcohol Addiction and Nervous Invalids Needing Rest and Recuperation. It will fill a great need in this section. It is fine for our state to have an up-to-date place like this with a man behind it with plenty of experience. Dr. Hoyer is a native of Mississippi. He is a graduate of the Webb School at Belle Buckle, of Vanderbilt, and Tulane University. He has done general practice, served as county health officer. He has taken a number of courses in Psychiatry including a six months' course at Kankakee, Ill. He holds a license to practice in several states. He was superintendent of the East Mississippi State Hospital for the Insane for sixteen years. He is a constant student. He is kind and courteous to every one. Mrs. Hoyer, his true and tried and wonderful helper, was before her marriage, Miss Ella Crisler, of Crystal Springs. The medical profession of this state will appreciate this modern hospital for the treatment of the mentally sick and other special conditions. We congratulate Dr. Hoyer and we extend our cordial good wishes. The Mississippi Doctor greatly appreciates his full page ad.

Dr. T. M. Dye,
Clarksdale, Miss.

Dear Doctor Dye:

In accordance with your letter of August 12, I will arrange to deliver an address in Greenville, Miss., on May 5, and return to Chicago that same evening.

Very truly yours,

MORRIS FISHBEIN, M.D.

The above communication to Secretary Dye will be received by the doctors of Mississippi with great delight. Dr. Fishbein is a speaker of world note. His addresses are very able in content and always delivered in a delightful manner.

The A. B. C. of Refraction, by Dr. F. D. B. Waltz, of Detroit, is a little book that is very unique. It takes up the subject of refraction step by step in the simplest manner. He makes it very plain. It is a book that should be of untold value. The object of the book is to stimulate the practitioner and to tell him how to do a simple refraction, the author taking the view that it is much better for the practitioner to fit his patient with glasses rather than have him go to a retail store. The idea is a good one. If you will take this book and study it and follow the directions of Dr. Waltz you can do this very thing. It seems that the idea is a good one. It will help to supplement the income of some of the general men. It will not take any work away from the real specialist. It will safeguard the patient to a wonderful degree, it would seem. It looks like a productive idea. You will be delighted with the book. The price is only one dollar and seventy-five cents.

Now the Southern Surgeon comes along with a fine editorial from a good man emphasizing the idea that the Mississippi Doctor has preached for ten years or more that of educating the practitioner and bring modern medicine and modern surgery out to the commercial firing lines. One by two or three they are falling in line. We hope to give you this editorial next month.

The Mississippi Doctor offers its deepest sympathy to Drs. R. L. and Carl Sanders in the loss of their beloved mother. She was no doubt a woman of strong character and great worth. She will live in service through her noble sons and daughters.

Better be operated for acute appendicitis by a country surgeon in a six bed hospital within six hours of the onset as by a Mayo in a six hundred three days later. Dr. Time is the most successful surgeon who has ever operated for this human malady.

Speaking of public health officers, Mississippi is fortunate in having one of the very best in the United States. Our Public Health Department and the medical profession work hand in hand for the good of the people.

With this issue we conclude the "Soul of the Surgeon" by Dr. Rudolph Matas. We will have it in book form at an early date. You will see announcement and price in next issue.

The Mississippi Doctor gets the very best papers for publication, ones that are practical and helpful to the general man.

Read all the papers in this issue. They will do you good.

DR. SEALE HARRIS

Gastro-intestinal and Nutritional Diseases
Diagnostician

2234 Highland Avenue
Birmingham, Alabama

Tumor of the Breast

GEORGE CRILE, M.D.
Cleveland Clinic
Cleveland, Ohio

Many volumes and multitudinous papers have been written regarding benign and malignant tumors of the breast. Various classifications have been proposed as have modifications of the technique for their removal. From all this mass of literature emerge four fundamental questions: (1) Are any breast lesions certainly and finally benign or are all potentially pre-cancerous? (2) What shall be the procedure in the case of a supposedly benign but possibly pre-cancerous tumor? (3) Can any modification of the technique of the radical amputation of a malignant tumor of the breast lessen the possibility of metastases? and (4) What is the value of radiation therapy?

Upon the answers to these questions depend the end-results of the treatment of tumors of the breast.

Are any breast tumors certainly and finally benign and what shall be the procedure in the case of a supposedly benign tumor? If this question could be given a positive answer many a patient could be spared a mutilating operation and the problem of the surgeon would be simplified.

Ten years ago the late Dr. Frank E. Bunts made a study of the records of 1264 cases of diseases of the breast. This study included a comparison of the age incidence of benign and malignant tumors which showed a comparatively high incidence in earlier years, i.e., under 30, of other than carcinomatous conditions. Thus among the benign tumors 35.4 per cent occurred in patients under 30 years of age; while among the malignant tumors only 2.8 per cent oc-

curred at ages below 30 years. This would appear to be at least an indication of the potential malignancy of so-called benign lesions of the breast.

As for cysts the high incidence between the ages of 30 and 50 years would seem to indicate that "whatever processes of involution at different age periods lead to the development of cancer, these processes are also potential in the production of cysts." Such considerations would lead one to suppose that complete removal of the breast should be the procedure even in the case of a tumor which at the time of the operation was definitely benign. An exception to this rule, however, may be made in the case of a single cyst of the breast, though as Bunts has stated, it is possible that the same etiological factors that produce cystic conditions of the breast also produce carcinoma but there is no final evidence that cysts of the breast *per se* are proemial in character. In Dr. Bunts' study of 160 cases of single cysts, carcinoma appeared later in the breast from which the cyst was removed in only 3 cases. In view of this finding we believe that a solitary simple cyst of the breast may be excised locally.

It is needless to add that the excised cyst should be examined by the pathologist to see whether or not it contains any suspicious elements. Moreover the patient should be examined at frequent intervals in order that a recurrence of the cyst or any initiation of a malignant growth may be discovered.

Multiple cysts and chronic cystic mastitis present a different problem. In such a case the local excision of the cystic mass or masses should never be attempted. In a case of diffuse cystic mastitis in a woman under 30 years of age a waiting but watchful policy may be adopted. In later years the entire breast should be removed and as in every case of a

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recurrent tumor of the breast, the tissue should be carefully scrutinized to discover whether or not there is any evidence of malignancy. If so, of course, the radical operation should be completed.

The reason for the removal of the breast *en masse* is obvious. In the operator's ignorance as to the possible presence of multiple cysts elsewhere in the breast such accumulations may be cut into with a resultant possible dissemination of malignant cells if such are present.

In my own experience a number of years ago there were two such cases. In each of these I removed the portion of the breast which contained most of the cystic masses. In each case a cancer developed in the scar with extensive metastases. Neither of these patients was saved by a radical operation. In each of these cases the tissue removed at the primary operation was sent to several outstanding pathologists and all agreed that there was no sign of malignancy to be found in the specimens.

It occasionally happens that carcinoma develops in or near the scar which follows the partial removal of the breast for chronic cystic mastitis. The probable explanation of this unfortunate sequel is that indicated above, namely that the formation of cysts betrays a tendency to tumor formation and even though the primary tumor is benign, that tendency remains and is strengthened by the additional growth energy with which it is endowed by the scar formation. The very presence of the diffuse growth of cysts shows that growth energy above the normal was present in the breast tissue even before the appearance of the carcinoma. The tendency of scar tissue to increased growth energy is well illustrated by the occurrence of malignant growths in x-ray scars and in scars from burns. With the formation of the scar therefore we add a new tendency to new growth formation to that already present in the breast.

In the case of a single duct papilloma the same dictum might apply as in the case of a single cyst but these growths are often very minute and more than one duct is usually involved. It follows that the same procedure should be followed as in the case of chronic cystic mastitis, that is, the breast should be resected as a whole. It is better to leave the papilloma alone than not to make the complete resection but on account of its possibly pre-malignant character operation is indicated.

In this connection it is well to define what should be the attitude of the surgeon in a case of hemorrhage from the nipples. It is perfectly obvious that there can be no such thing as an "innocent hemorrhage." Any exudation of blood from the nipple betrays the presence of some pathologic change in the ducts or in a duct. There may be only a benign papilloma but it is known that papillomata are definitely premalignant in character, and in any case there is no criterion in the case of a bleeding nipple whereby to judge whether it comes from a definitely malignant or a premalignant source or which duct or ducts are involved. In the presence of such uncertainty therefore the only safe procedure is to remove the entire duct bearing tissue, that is, to make a complete resection of the breast. It is perfectly true that in certain cases examination of the tissue that has been removed will show that a small local excision would have been sufficient, but that can not be told in ad-

vance and better the more mutilating operation than the chance of local malignancy and metastases. This is but a logical application of the principle of preventive medicine by which a few are saved from a real danger but the possibility of danger is present for all.

As for Paget's disease of the nipple there can be no question as to the course to pursue, for Paget's disease usually becomes malignant and therefore should be treated surgically as a malignant lesion, that is the breast should be completely resected, but it is not necessary to perform the radical operation unless histologic examination shows that malignant changes have already been initiated. It should be borne in mind also that nearly all breast cancers originate in the duct system and if only the nipple is removed there will remain the ducts whose avenues of discharge are sealed. Accumulations will therefore tend to form within them and will predispose the system to new growths. It follows that the entire duct system, that is, all the glandular breast tissue, should be removed.

The reason for this procedure should be carefully explained to the patient who otherwise may well feel that a needlessly mutilating operation has been performed for what appears to be a small superficial lesion. Only the ultimate safety of the patient should be considered in this connection as in the case of any other of the lesions which have been discussed above.

As for a single simple fibroma of the breast it may be removed by itself alone, provided, as in the case of a simple cyst examinations of the breast are made at frequent intervals to determine the presence of a recurrence or of beginning malignancy. In some cases, however, a fibroadenoma may be so large that it is necessary to resect the entire breast.

Certainly if the suspected tumor is in a breast in which cystic mastitis is present, even if the biopsy does not reveal a malignant condition, the mere placing of a scar in the midst of tissue which has already acquired growth energy above the normal is dangerous in itself.

If the suspected growth is isolated, then since, the tumor whatever its character would have to be removed, why perform a biopsy which if the tumor should prove to be malignant will add the possible even if improbable danger of dissemination into the lymph or blood stream. In removing such a tumor care should be taken to make a wide excision so that there may not be even the slightest chance of dissemination.

It would appear that biopsy is an illogical procedure, since whatever the character of the tumor either the entire tumor mass or the entire breast should be resected in any case. If examination of the tumor betrays the presence of a cancer then, of course, the radical operation is indicated.

In considering the disadvantages of biopsy, perhaps one of the most vital arguments against this

J. M. DORRIS, M.D., F.A.C.S.

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402 Physicians and Surgeons Bldg.

Telephone 6-3288

899 Madison Ave.

Memphis, Tenn.

procedure is that existing cancer may be missed.

TECHNIQUE OF RADICAL OPERATION

Various forms of technique have been proposed for the performance of the radical operation and have been named for their proposers, Halsted, Handley, Kocher, etc. (Figure 1) Each of these operations has as its objective, of course, the complete extirpation of the breast and the gland bearing areas connected with it. Handley's operation which involves extensive excision of the fascial planes far beyond the breast tissue would appear to be a logical procedure. A review of the end results in cases operated upon at the Cleveland Clinic, however, does not indicate that the end results are improved by this extension of the usual radical operation. In advanced cases it is true that cancer may extend into this field; but so also may it extend into the supra-clavicular glands, into the skin behind the axillary folds and even into the opposite breast. It follows that the lines of possible extension can not all be covered routinely. The objective of the operation must be to include all the involved tissues and to plan the technique so as to prevent the dissemination of the growth beyond the new fields.

As to the second of these points—any scar that is under such a strain as is placed upon it by the Halsted incision tends to become larger as time passes; then a contraction takes place which fixes the arm still more and this in turn increases the strain upon the scar. This constant strain ultimately causes a keloid tumor to develop.

Not only should the incision permit free movements of the arm but it should be so placed as to

produce the least possible interference with the lymphatic circulation in the skin.

A low incision is therefore made. (Figure 2) After the incision is made the usual technique for the removal of the breast tissue and the severing of the pectoral muscles is followed. (Figures 3 and 4) But a distinct change is made when we come to deal with the lymphatic glands and muscles in the axilla.

The usual procedure has been to dissect the glands from below upward and to use blunt dissection in their removal. This procedure might well result in the pushing of some cancer cells through the lymphatics into the regions beyond. With this possibility in mind we have adopted a technique whereby the glands are dissected from above downward. First of all the lymphatic vessels are divided and then with gentlest manipulation and sharp dissection from above downward the lymphatic chain in the axilla is removed. (Figure 5) This dissection is carried high into the axilla which is readily accessible if the arm is relaxed and brought down toward the side. With the arm in this position the pectoralis major and the pectoralis minor can easily be lifted and retracted so as to expose the entire axillary region and thus the surgeon can readily begin his dissection at the highest point in the axillary space.

At this point we may well consider whether or not the pectoralis major and minor should be resected. The reason for this resection has been not only to remove every extension of the cancer but also to provide ready access to the axillary space. According to the plan described above, however, the axillary space can be made completely accessible without resection of

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these muscles. Moreover, in early cancer the pectoralis major and pectoralis minor are not involved at all. They are as free from cancer as are the biceps muscles. The fascial planes between the two muscles should be excised as then they can be retracted as described above. (Figure 6)

As we have stated there is no danger in leaving the muscles intact in early cases if there is the slightest doubt these muscles should be resected.

As for amputation of the shoulder girdle this is justifiable under just one condition, that is when in the absence of metastases in the lungs or long bones or vertebrae there is intolerable pain about the shoulder girdle and the axilla. Otherwise this operation would appear to be contra-indicated since if the cancer has extended to such an extent as to involve the shoulder girdle it is no longer possible to cure the disease.

There have been many proponents of the use of the cautery in preference to the knife for the removal of cancer of the breast as of cancer of any other part. The reason for this preference has been the belief that since the cautery sealed over the divided lymphatics and blood vessels there would be increased security against the dissemination of the cancer in the course of the operation. In a properly conducted operation, however, in which there is no pressure upon the tumor or the glands there can be no dissemination from pressure. But no knife in the hand of an experienced operator ever passes through cancer tissue. If the growth has progressed so far that it cannot be removed without danger to cancer cells then the condition is inoperable.

What about the prognosis? First of all in a patient in whom the cancerous growth has progressed so far that it and the involved glands can not be removed *en masse*, and if there is evidence of metastasis in other parts of the body the condition may be considered as inoperable. But unfortunately operable does not mean curable for various factors may affect the prognosis in any given case. One point that markedly affects the prognosis is the number of involved glands. If there are only one or two large glands in the axilla it means that the growth energy of the cancer and the resistance of the patient have come to a balance and that the probability of metastases in distant fields is correspondingly lessened. On the other hand if many slightly enlarged glands are present it indicates that the energy of the cancer is greater than the resistance of the glands and that therefore the disease is passing through the glands and may well have passed on into other sites, at least beyond the locations which can be surgically removed. The prognosis in such a case is grave. Some patients with many small glands have been cured but such cases are exceptional. Moreover histological examination of the glands when many are involved discloses a high degree of virulence.

Contrary to what would seem to be the case, the size of a tumor of the breast bears no direct relation to the prognosis. A more favorable prognosis can probably be given in the case of a great ulcerating mass which involves the entire breast but not the chest wall than in the case of a small rapidly disseminating scirrhous carcinoma which though it may be scarcely perceptible may already have formed metastases in the lungs and bones. As in the case of the

potentialities of a single large axillary gland as compared with many small glands, so a large local growth in the breast indicates that the local resistance is high and that the power of rapid invasion is not so great as in less penetrable forms of cancer. Moreover, and of greater significance is the fact that clinical experience has shown that the large tumors are more curable by operation than are the small more rapidly infiltrating tumors, and they are also more radio-sensitive.

The x-ray plays a definite and indispensable role in determining the operability and the prognosis. In any doubtful case, especially when dealing with a scirrhous carcinoma preoperative roentgenograms of the chest and spine should be made. If lesions in these parts or elsewhere are present operation is not only useless but it is inadvisable.

As for the therapeutic use of radiation the application of the x-rays alone in the treatment of carcinoma of the breast is useless except in inoperable cases when it may serve as a palliative measure. Unwilling to abandon the idea that the x-rays must have some therapeutic value the pre- and postoperative use of radiation has been advocated by radiologists.

As for the use of preoperative radiation either the cancer is curable by operation or it is not. If the former then radiation can add nothing. If the latter, then radiation alone may be used. But there is another and more significant reason why radiation should not be used before operation. Not only does effective radiation render the operation more difficult but if the radiation has not destroyed all of the cancer cells the cancer will have had two added weeks in which to grow and those two weeks may be sufficient to change a curable into an incurable condition. Moreover radiation often reduces the vitality of the patient thus adding to her burden.

As to the postoperative use of the x-ray, its value is still *sub judice*. It is argued that if malignant cells have escaped the surgeon's knife they may be destroyed by this agent. On the other hand the patient's vitality may be lowered by radiation sickness and the effect of the x-ray upon the normal tissue may be analogous to that produced by an x-ray burn, that is, a precancerous lesion may result. I have in mind a case in which heavy irradiation was applied after a radical amputation of the breast. This resulted in an area of marked telangiectasia. Because of the nodular appearance of this area a biopsy was performed 13 years after the breast operation which revealed only chronic inflammation. An ulcer developed which failed to heal and 18 years after the primary operative procedure the entire scar was excised. The removed tissue showed telangiectasia, rigidity, and ulceration which with the pain which had been present were characteristics which accompany x-ray burns which as we know constitute a definitely precancerous con-

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dition. There has never been any sign of recurrence of the cancer and this patient is still living 18 years after the amputation of the breast. Whether or not the x-ray contributed to the permanency of this cure can not be stated. That it did introduce a dangerous factor is certain.

To form a more definite conclusion regarding the efficiency of the x-rays in promoting the cure of cancer of the breast, Dr. Allen Graham has made a comparative study of the irradiated and non-irradiated cases in our series of 1319 cases of cancer of the breast in which operation was performed from 1895 to 1930 inclusive. Our total series to January 1, 1935 includes 1693 cases.

A study of the data accumulated by Dr. Graham shows that longevity was not increased in the irradiated group as contrasted with the non-irradiated group. There has been no decrease in the percentage of patients known to have died, as the result of positive, probable or questionable cancer; nor has there been any increase in the percentage of patients free from cancer among those known to be alive five years or more after operation; and there has been no decrease in the percentage of local recurrences.

We conclude therefore from this analysis that there is no evidence that postoperative irradiation results in a general improvement of the clinical end results.

SUMMARY

1. All breast tumors with the possible exception of single cysts and fibromata must be considered as potentially precancerous.

2. In the case of supposedly benign but poten-

tially precancerous tissue the entire breast should be removed and the patient examined at stated intervals thereafter.

3. Scar tissue is potentially malignant.

4. There is no such thing as an "innocent hemorrhage." In cases of a bleeding nipple if the cause is not clearly evident the entire breast should be removed.

5. In a case of Paget's disease of the nipple the entire breast should be removed, and the radical operation performed if histologic examination arouses the slightest suspicion of malignancy.

6. Biopsy is an illogical procedure. Either the entire tumor mass, if it is a simple cyst or a fibroma should be removed or the entire breast if it is a potentially precancerous lesion. Examination of the excised tissue should be made, and the radical operation performed if there is any evidence of malignancy.

7. In performing the radical operation the resection of the axillary glands is made from above downward to avoid the expression of cancer cells into the lymphatic ducts.

8. In all but early cases the pectoral muscles should be resected. In early cases this dissection is not necessary.

9. Amputation of the shoulder girdle is justifiable only when there are no metastases in the lungs or bones, and there is intolerable pain about the shoulder girdle and axilla.

10. Cancer of the breast is inoperable when there is evidence of metastasis in other parts of the body.

11. The size and number of involved glands have

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a direct bearing upon the prognosis. The smaller the glands and the larger their number the worse is the prognosis.

12. Preoperative irradiation is contraindicated.

13. There is at present no convincing evidence that postoperative irradiation has any effect upon length of life or recurrence of the cancer.

LEDGENDS

Figure 1. Various types of incision for radical operation for cancer of the breast.

Figure 2. Incision with arm at right angle.

Figure 3. Dissection of skin flaps.

Figure 4. Freeing of breast and dissection of areolar tissue.

Figure 5. Dissection in axilla from above downward.

Figure 6. Closure of incision with insertion of drains.

An Evaluation of the Diagnostic Methods and Operative Methods in Treating Disease of the Biliary Tract

W. WAYNE BABCOCK, M.D., F.A.C.S.

From the Surgical Department of Temple University, Philadelphia, Pa.

The gallbladder is not an essential organ and is absent from a number of animals, notably the horse, deer, rhinoceros, peccary, pigeon and rat. Although the daily secretion of bile is about 800 c.c., the gallbladder has a capacity of about 30 c.c. or what would be equal to the output of bile for only one hour. In the gallbladder the bile is concentrated to about one tenth of its volume, salt, chilesterol, pigment, and water being absorbed into the blood and mucus being added. The normal gallbladder varies considerably in size, shape and to some degree, in position. It may project below the liver, be entirely covered by the edge of the liver or rarely be partially embedded in the liver substance. The nerve supply is largely from the sympathetic system, with some fibres from the pneumogastries and pain sense is absent as far as the dome and body of the organ is concerned, although tension upon the neck of the gallbladder causes distress referred to the epigastrium. It is to be remembered that the gallbladder may be inflamed, yet insensitive, and that tenderness associated with cholecystitis is usually due to irritation of the adjacent parietal peritoneum or other sensitive structures or to a sympathetic reflex.

While the gallbladder has lymphatics and a number of lymph nodes lie adjacent to the neck of the gallbladder and the tributary ducts, toxic material from within the gallbladder has such limited absorption that in purulent forms of inflammation there is rarely any great rise in temperature or pulse rate and chills and sweat do not usually occur. In strong contrast an infection or obstruction of the bile ducts is followed by chills, high fever, sweat and a marked increase in pulse rate. For these reasons one should not expect to find local tenderness or marked toxic reaction from infections of the gallbladder, although they are common in acute inflammations of the biliary ducts. In about sixty per cent of persons the common

bile duct grooves or tunnels the head of the pancreas in such a manner that when the head of the pancreas is swollen, the duct is occluded with resultant jaundice. The common duct also passes very obliquely through the duodenal wall, so that peristaltic waves in this portion of the bowel produce, as Kodami has shown, a milking effect, aiding the flow of bile.

Cholecystitis. Next to the appendix the gallbladder is the most frequent cause of serious abdominal colic. After middle life biliary colic from gall stones is even more common than appendicular colic. As the gallbladder when once infected is usually permanently infected, the symptoms are prone to be progressive and to result in an increasing tendency to serious complications. An acute catarrhal cholecystitis produces symptoms suggesting an acute indigestion and rarely is correctly diagnosed, although occasionally in an adult or child the enlarged gallbladder may be palpated below the costal border. The source of the infection usually is not clear. It may occur through the blood stream; from focal infection directly from the liver through communicating lymphatics. In the acute process the mucous lining of the gallbladder is red, swollen and shows excessive mucous secretion. In chronic catarrhal cholecystitis, the mucosa may be thickened, reddened or inflamed, or the mucosa may be thin and eroded. Denuded, whitish yellow, or cholesterol-coated papilla produce the not infrequent, so-called "strawberry gallbladder." The first stage of cholecystic catarrh usually develops between the age of ten and thirty-five years and is marked by digestive, focal and toxic symptoms. It is then to be diagnosed by the history, and by the examination of the products of biliary drainage obtained through the duodenal tube. Cholecystography is unreliable as it then usually reveals an apparently normal gallbladder. Cholecystectomy at this stage, if skillfully performed, is relatively safe, having a mortality well under one per cent. The second stage of chronic, catarrhal cholecystitis is characterized by gall stone colic, and usually begins between the ages of thirty-five and fifty-five, although occasionally it occurs in childhood. Gall stones are about twenty times as frequent in women as in men and the colic often develops during or soon after pregnancy. A typical attack is marked by a sudden attack of nocturnal abdominal colic which the patient describes as an acute indigestion, occurring in a middle-aged, obese woman, with a sense of epigastric pressure radiating to the back. The pain is severe, but is relieved by

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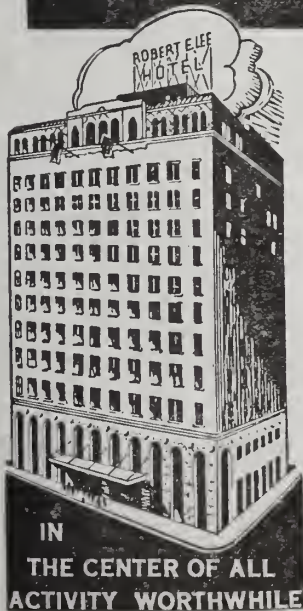
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induced vomiting or by a hypodermic of morphine and rarely lasts more than one half to four hours. Chills, fever, radiation of pain to the scapula suggest obstruction to the ducts. Between the attacks the patient suffers from a qualitative dyspepsia, characterized by distress from certain foods, particularly rich, greasy, fried foods, pastries, tomatoes, pickles or cabbage. Laxatives, sodium bicarbonate, or a calomel course may afford a period of temporary relief. During the attacks the gallbladder may be neither palpable nor tender, although pressure of the epigastrium usually causes discomfort. There is little or no affect upon the pulse, temperature or respiration, and jaundice is rarely associated. The diagnosis is best made from the history of typical attacks of colic, although between the attacks evidence of gallstones may be found by duodenal biliary drainage or by cholecystography. It is very important to differentiate gallbladder colic from disease of the heart or aorta. Either may occur at night or after a heavy meal and the pain be referred to the upper right quadrant of the abdomen. From the passive congestion of heart disease the liver may be found large and tender. Cyanosis or pallor, irregularity of heart action, and with myocardial disease, leukocytosis and fever may be associated. The patient with a gallbladder attack often puts his finger down his throat, in attempt to obtain relief by inducing vomiting. The patient with an anginal attack sits up, gasps for breath, fears to move, and dreads a fatal issue. A perforating duodenal or gastric ulcer causes much more

violent pain than a gall stone attack and may prevent movement. Usually the patient is younger and a man, who makes no attempt to obtain relief by vomiting. The escaped fluid and gas in the abdominal cavity may usually be detected by the physical examination. There is marked, generalized abdominal rigidity, the abdominal wall being board-like from the intense reflex spasm of the muscles. In subacute and chronic perforation of a duodenal or gastric ulcer, the pain is less intense, more localized, but continues day after day without enlargement of the gallbladder. Dietl's crisis or renal colic usually follows movement and is infrequent at night. The large tender kidney may be palpable, percussion tenderness is present over the loin and the pain, instead of radiating from the epigastrium to the posterior attachment of the eleventh rib to the spine, radiates toward the genitals if the stone is in the ureter. An attack of acute pancreatitis is much more intense than that from gall stones, although it not infrequently occurs in persons who previously have been subject to biliary colic. A gall stone attack does not overwhelm the patient and is relieved by a sixth or a quarter of a grain of morphine, while the pain from an acute pancreatitis is excruciating, causes shock, subnormal temperature tends to persist, and hypodermic injections of a third, a half or three quarters of a grain of morphine may give but incomplete relief. The pain and tenderness are more to the left of the epigastrium, where a fullness from the enlarged pancreas

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may be detected. The abdominal walls are rigid, very sensitive, and early shifting dullness evidences the effused fluid in the abdominal cavity. On incision the pale greyish or yellowish spots of fat necrosis, and the blood-stained or "beef-broth" peritoneal fluid confirm the diagnosis. With malignant disease involving the gallbladder, the pain is less severe, being more in the form of discomfort and indigestion; the onset is more gradual; the symptoms more progressive and the gallbladder usually enlarges, often is palpable and may contain pus. Other conditions which must be carefully differentiated from the biliary colic are the gastric crisis of tabes, an acute pyelitis, a diaphragmatic pleurisy, and especially herpes zoster. In the diagnosis such clinical findings as biliary colic, palpable gallbladder, local tenderness, moderate fever upon a background of qualitative dyspepsia, focal symptoms, either cardiac, arthritic or muscular give the most dependable evidence of acute and chronic obstructive lesions, although they are not dependable for early non-obstructive lesions.

Duodenal Drainage. Duodenal biliary drainage, which reveals cholesterin and bilirubin calcium crystals, clumps of columnar epithelial cells, flocculi of mucus and bacteria gives perhaps the best indication of non-obstructive lesions of the biliary system. Negative findings, which may result from obstructive conditions are of course unreliable. Cholecystography is of great value when the dye eliminated in the bile is so concentrated in the gallbladder that a shadow occurs on the roentgenogram. Unfortunately in either a normal or diseased gallbladder, the dye may fail to enter the gallbladder or to concentrate. Thus the method is particularly unreliable when the gallbladder fails to visualize. Cholecystography may show the size, shape, concentrating power, presence of fistulous openings or of calculi or gas in the biliary system. The intravenous injection of the dye, somewhat more dangerous, is hardly more reliable than the oral administration although very precise technique is important if the best results are to be obtained. These tests which require starvation, the use of toxic drugs and irradiation should not be employed upon a debilitated patient or one with a damaged liver immediately before a serious operation is undertaken. The Van den Bergh test is of value in determining latent jaundice, the degree and progress of jaundice, and is of some value in differentiating between obstructive jaundice, in which there is prompt direct reaction: hemolytic jaundice, in which there is usually an indirect or a delayed direct reaction; and the jaundice of hepatic disease or a toxic or infectious jaundice, in which a biphasic reaction is characteristic. The determination of the icterus index is also of value in ascertaining variations in the degree of jaundice. Tests thus far devised to determine the functional capacity of the liver have proved of limited value. The dye elimination test of Rowntree-Rosenthal, in which it is assumed that only a fairly normal liver will remove two milligrams of bromsulphthalein from the blood stream within thirty minutes of its intravenous injection, is perhaps as valuable as any yet devised. In evaluating the various diagnostic methods we may summarize by saying that the clinical evidence, if clearly positive, is dependable in about

ninety-seven per cent. When the symptoms are not positive yet strongly suggestive of biliary colic, gall stones will be found in about eighty per cent, while in the absence of biliary colic, about ten per cent of middle-aged patients with digestive disorders will be found to have gall stones. Duodenal biliary drainage with findings indicating either gall stones or cholecystitis, is dependable in about ninety-three per cent of the examinations. Negative findings, however, in the presence of clinical evidence of biliary disease are dependable in only about sixty per cent of the examinations. Such biliary studies are time consuming and require very accurate observation.

The diagnostic reliability of cholecystography depends largely upon the technique and condition of the patient when the examination is made. If under the influence of the dye the gallbladder is visualized and appears diseased, and the clinical symptoms also suggest biliary disease, the diagnosis may be depended upon in about ninety-three per cent of the cases examined. If, however, the gallbladder is visualized as normal despite clinical evidence of disease, the gallbladder will be found diseased at operation in about forty-five per cent of the patients. Again, if the gallbladder is not visualized and, therefore, is considered to be diseased without other reason, in twenty-five per cent of the patients the gallbladder will be found at operation to be normal. It is evident that during an acute gallbladder attack the clinical examination is the most dependable diagnostic measure, while for subacute, chronic or symptomless conditions the diagnosis is best made by the duodenal tube or by the roentgen examination. In elderly persons a percentage of gall stones, rendered radiopaque by their calcareous content may be visualized upon the flat film. It is to be remembered that three or four per cent of the patients in whom gall stones are apparently visualized by cholecystography, no stones will be found at operation. In a much larger percentage in which the gallbladder is visualized and is apparently free from stones, calculi, usually small, will be found when the abdomen is opened.

Acute Purulent or Gangrene Cholecystitis deserves particular consideration in view of the dangerous complications which it entails and the present disagreement as to the best method of treatment. The condition usually occurs in middle or rather advanced life, in a person who previously has had one or more attacks of gallbladder colic, and is due to the impaction of a gall stone in the neck of the gallbladder or cystic duct. As a result of the obstruction the gallbladder becomes distended by mucus and inflammatory exudate, the pressure upon the mucous lining produces ischemia, hemorrhages and necrosis of the mucosa, the walls of the gallbladder become very edematous, the contents, greyish, turbid, or dark and mucopurulent, and particularly after the seventh day colon bacilli often invade the

W. LIKELY SIMPSON, M.D.

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necrotic tissues with the production of a purulent, fetid type of inflammation. The gangrenous walls of the gallbladder often perforate with the formation of secondary abscesses in the gallbladder bed or adjacent liver, a peritonitis, localized or diffuse; or a fistula into the duodenum or other adjacent viscus through which stones may enter the gastro intestinal tract and if over two c.c. in diameter may later produce intestinal obstruction. The symptoms are those of a persistent gall stone colic with enlarged gallbladder. Any biliary colic which lasts over six hours and is associated with an enlarging palpable gallbladder usually is due to an impacted gall stone and is characterized by a purulent inflammation and necrosis of the lining of the gallbladder. While the pain may be severe the general reaction is relatively slight. The temperature varies from 99° to 102° F. and the pulse from 70 to 90 in the early stages and leukocytosis may be absent or moderate. Where the fundus of the large gallbladder irritates the parietal peritoneum near McBurney's point, tenderness and overlying muscular rigidity may be detected and the mass is not infrequently mistaken for an appendiceal abscess. The presence of the less evident body of the gallbladder extending up under the right costal border differentiates it, however, from the appendiceal condition. Rarely do the complications develop during the first week. After the seventh day the pus becomes fetid from the invasion by the colon bacillus, and perforation into the duodenum, stomach, liver, peritoneum may occur. The prognosis, contrary to the common belief, depends largely upon the promptness and type of operative treatment. The mortality from operation done during the first week should not exceed three or four per cent and in patients under forty years of age two per cent. During this earlier period cholecystectomy may often be done with relative safety. After the eighth day the mortality, even from a simple cholecystostomy, is about thirty per cent or, if there has been a colon bacillus invasion with fetid pus, the mortality is about forty-five per cent. Delayed operation has cost many lives. In fifty consecutive cases of acute purulent cholecystitis the mortality of cholecystectomy done during the first seven days was four per cent, while the mortality was thirty-five per cent following cholecystostomy done in the simplest manner after the seventh day. It would appear that a radical operation may be done with relative safety during the early days of the obstruction, while even a simple drainage has a high mortality after the first week. Apparently the operation is safer than delay during the first week of the disease, while delay is safer than the usual type of operation after the first week. Later a simple cholecystostomy is more dangerous than the spontaneous rupture of the gallbladder into the adjacent duodenum or stomach. But even a mortality of four per cent from an early operation may be reduced, while a mortality of thirty to forty-five per cent for a late operation seems inexcusable. We have therefore completely revised our treatment of acute purulent cholecystitis. The earliest feasible operation is advocated. Cholecystectomy should be done rarely and only during the first five days of the disease and only upon patients who are young and in general excellent condition. The conventional cholecystostomy is not to be used. When the condition is advanced and the bile septic, even the aspira-

tion of the exposed gallbladder may spread the infection to the peritoneum. In such a case the gallbladder should be exteriorized and opened at a later time. Under local or gas oxygen anesthesia the dome of the enlarged gallbladder is delivered through an upper vertical right transrectus incision and tacked to the skin margins by a few fine interrupted sutures. Unless there is intraperitoneal abscess, no drains are inserted by the side of the gallbladder. Eight to twenty-four hours later, adhesions have walled off the general peritoneal cavity, the gallbladder is incised by knife and cautery without anesthesia. Several days later and only when the acute reaction has subsided, is the impacted stone to be removed by scoop or forceps. Particularly is this stage operation to be recommended for patients highly toxic or of low resistance on account of advanced age or marked obesity or other disease. Later in order to remove impacted stones it may be desirable to apply ether on cotton swabs to dissolve the cholesterol. The removal of retained calculi may be greatly aided by inspection through a Kelly cystoscope.

In an acute cholecystitis with marked adhesions and fixation preventing exteriorization a two-stage drainage operation, the gallbladder not liberated, but opened within the protecting adhesions at a second state, is much safer than a radical primary operation.

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tion but by a distention of the gallbladder by mucous secretion, forming a hydrops. This results in a painless enlargement of the gallbladder which forms a globular mass below the right border. The treatment of this mucocele is cholecystectomy. The mortality is low.

During an operation for chronic biliary disease, the type of bile which escapes or is removed by aspiration through a hypodermic is a valuable guide as to diagnosis and treatment. Normal bile is clear golden yellow, a tenacious dark bile indicates a chronic catarrhal inflammation, and white bile, a chronic obstruction usually at the neck of the gallbladder, greyish purulent bile implies an acute obstructive cholecystitis or if chronic a possible carcinoma, while offensive odorous bile a very dangerous septic cholecystitis or choledochitis. The mortality is especially high when fetid pus is found in the common or hepatic bile ducts.

For chronic biliary disease cholecystostomy, which gives much poorer operative results than cholecystectomy is an operation of necessity not of election. It is indicated when poor technical facilities, such as inexperience, inaccessibility, lack of assistance, unfavorable surroundings, poor light and exposure, render cholecystectomy dangerous. It also may be used as a stage operation for obstruction in the ducts, especially in the presence of jaundice or infection, as well as in forms of hyperacute cholecystitis, and for those patients who are in such poor physical condition that only the simplest operative procedure should be selected. In all other cases cholecystectomy should be preferred to cholecystostomy. Cholecystectomy, however, is safe only with a flawless technique. It is indicated in all types of surgical disease limited to the gallbladder, provided the available facilities, the patient's condition and the local pathologic changes do not contraindicate the more extensive operation. In the operation a common and very serious accident is injury to the common bile duct, to be avoided by carefully raising the overhanging neck of the gallbladder, by clearly exposing the cystic duct, and by keeping very close to the gallbladder as it is liberated. The common duct may be completely divided or the ligature on the cystic duct be placed too far down and thus obstruct the communis. Many patients have died during the last ten years from accidental injury of the common bile duct, either immediately or after months of treatment and repeated operations. A second danger is the leakage of bile, always dangerous though not invariably fatal. This may come from a slipped ligature upon a cystic duct, which for greater security, we believe, should be doubly tied with fine silk rather than with the less secure catgut. Again the bile may leak from an accessory biliary duct that has been divided or from an incision or puncture of an hepatic duct in the gallbladder bed. To avoid these accidents the edges but not the bottom of the gallbladder bed should be sutured and adequate drainage should invariably be employed after cholecystectomy, should there be any bile staining of the operative field after the removal of the gallbladder. The escaped bile may collect above the liver and cause post-operative septic symptoms. A second danger, often fatal when jaundice is present and occasionally resulting from imperfect ligation of the cystic artery when jaundice is absent, is secondary hemorrhage. The

cystic artery is given off so close to the aorta that it is under high pressure and should be securely tied, but with fine silk. Occasionally two cystic arteries are present. While we drain less than five per cent of our wounds after cholecystectomy, if there is any evidence, as the operation is being completed, of leakage of bile or blood, we then invariably drain. Other dangers of cholecystectomy are the so-called liver deaths, which in certain cases are probably due to the anoxemia resulting from a poorly administered anesthetic. A cyanosis often permitted to continue under ether or gas oxygen anesthesia during a prolonged operation may result in irreparable changes in both the brain and liver. Recently in a single hospital in Philadelphia three such deaths occurred from gas oxygen anesthesia given by internes. The surgeon should never permit the blood seen in the wound to remain dark while he is operating, irrespective of the anesthetic or the skill of the anesthetist. A second cause is sudden decompression of a bile-engorged liver. Uremia and urinary suppression not infrequently follows operations on the biliary system and is indicated by evidence of a high nitrogen retention. While a true croupous pneumonia is rather rare, atelectasis, bronchopneumonia and bronchitis are not infrequent after operation upon the biliary system. Both before and after the operation the patient is to be kept warm and an ample supply of dextrose and fluids administered. Embarrassment of the circulation by a gas-distended stomach is now treated by continuous aspiration upon an indwelling duodenal tube.

Postoperative Complications. A postoperative mucopurulent fistula is usually due to a stone lodged in the neck of the gallbladder or in a duct. In the neck of the gallbladder or cystic duct the tract may be dilated by inserting indwelling graduated rubber tube drains or by packing the tract with gauze until it is sufficiently enlarged to the point of obstruction. Stones may then be removed by forceps, curets and ether. This treatment may often be carried out upon the ambulant patient. With an external biliary fistula such as follows obstruction or division of the common duct, escaping bile should be collected and returned to the patient either through a duodenal tube or by administering it in grape juice. If the duct is obstructed but not divided, a snugly fitting tube may be introduced into the tract and suction drainage applied. In several cases in our experience this has been followed by a rapid closure of the fistula. Be-

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fore operating for a persistent biliary fistula the patient should receive an ample supply of fluids and glucose. The operation selected should be of the simplest efficient type. We prefer to wait three or four months until the fistulous tube has become well organized and then to delineate the tract by injecting a solution of methylene blue, after which the overlying scar is excised down to the muscular aponeurosis. Two vertical incisions are then made through the anterior abdominal wall, one about 1 cc. to the right and the other about 1 cc. to the left of the fistulous tract. On the median side the incision is deepened until the pyloric end of the stomach or duodenum is exposed. A portion of one or the other organ is withdrawn and sutured by two encircling rows of sutures over the fistulous opening after first making a corresponding opening into the duodenum or stomach. The vertical strip of anterior abdominal wall containing the fistula with the overlying attached segment of stomach or gall is then rotated 180° so that what was the external surface now faces the spine. The flap is fastened in its rotated position by sutures, the defect in the anterior abdominal wall is united without drainage. Thus by a very simple and superficial operation, without isolating the fistulous tract and thus destroying its blood supply, the bile is returned to the alimentary canal. The operation may be done under local anesthesia, and at times, due to protective adhesions, without opening the general peritoneal cavity. fine sutures of annealed rustless steel wire are of advantage, especially for the deeper closure. More elaborate anastomotic operations on the biliary duct are usually difficult and dangerous.

Secondary stricture of the ducts often follows anastomotic operations especially if the anastomosis is made through scar tissue, or if the defect in the duct is bridged by a segment of rubber or metal tube or an improvised tube of fibrous tissue. The proximal end of the duct, usually distended by bile, is best located by a fine hypodermic needle. The distal end may be small and difficult to find or to anastomose. Choledochoduodenostomy or choledochogastrostomy is, therefore, often desirable. When jaundice follows the anastomotic operation it is wise to operate without great delay. Otherwise, the patient generally dies eventually from hepatic and other degenerative changes. In operating for recurrent colic after the removal of the gallbladder one should examine carefully for obstruction in the common or hepatic duct, especially about the ampulla. A dilated duct indicates obstruction. If a probe does not readily pass into the duodenum or if it is feared as sometimes happens that the probe has stripped the mucosa from the duodenum opposite the point of the probe, the opening through the ampulla is enlarged, the margins carefully sutured to avoid secondary hemorrhage, or a new supra-ampullar opening made and sutured into the duodenum for effective drainage. Where definite obstruction is not found at the ampulla or elsewhere along the biliary tract, a soft rubber T tube is placed in the common duct which should not reach the duodenum, the margins of the opening of the duct sutured about the tube, which is brought out lateral to the main incision in the abdominal wall. To restore the lumen of a stricture in the duct this tube may remain in place from three months to a year.

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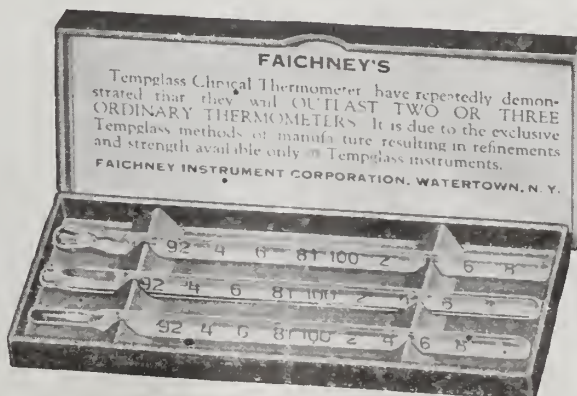
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Where the common bile duct has been divided close to the liver, a difficult problem results. A corresponding opening may be made in the duodenum which is sutured over the opening in the liver. Sometimes a small catheter may be inserted and buried in the dilated hepatic duct to maintain the patency of the anastomotic opening. Jaundice greatly adds to the operative difficulty and it is wise to operate early after the appearance of obstructive jaundice. Thirty per cent of all patients who have had jaundice, even of slight degree, for any considerable time will have secondary hemorrhage after operation and ten per cent of these patients will die despite any known form of treatment. Repeated blood transfusions both before and after operations upon jaundiced patients and the very free administration of Hartmann's or Ringer's solution and the glucose are probably as valuable as any measures that have been suggested, although often they do not prevent postoperative hemorrhage. If the hemorrhage continues as many as three or four transfusions may be given each day until the condition terminates. It was hoped that the intravenous injection of calcium, advocated years ago by Mayo Robson and since by others, or the use of thyroideum, would prevent hemorrhage, but experience indicates that these are of questionable value. Of great value is the use of limited stage operations for the jaundiced patient, the jaundice being relieved by the simplest form of cholecystostomy or choledochostomy at the first stage, and the obstruction being removed at a later operation. In relieving the obstruction being removed at a later operation. In relieving the obstruction the biliary system should be gradually decompressed. We prefer to place the end of the drainage tube about sixty cc. above the level of the anterior abdominal wall, lowering the end of the tube about two cc. every hour until the tension has been overcome. The gradual relief of the pressure is just as important in biliary disease as in urine retention. Acidosis which is characterized by stupor and coma follows heavy loss of pancreatic juice or bile and is to be combatted by the free use of Hartmann's or Fischer's solution. Either may be used intravenously; Hartmann's solution may also be employed subcutaneously. Alkalosis, which is characterized by vomiting and convulsion occurs from the loss of chlorides and follows repeated vomiting and profuse sweating, may be corrected by the administration of salt solution, Hartmann's solution or Ringer's solution, either intravenously or subcutaneously or sodium or ammonium chloride by mouth or rectum. It is to be remembered that glucose and particularly lactose, have a decided diuretic action and that, while salt solution stimulates peristalsis glucose has an inhibitory effect upon the movements of the intestines.

In all operations upon the biliary system it is desirable to note the condition of the liver and at times to remove a minute section for a biopsy and also to palpate through the foramen of Winslow, the biliary ducts, the periportal lymph nodes, the duodenal wall and the ampulla of Vater. The head of the pancreas should also be examined as well as both kidneys. As appendicitis precedes biliary disease in fifty per cent of the cases, if the appendix has not previously been removed, this also should be examined. Before removing the gallbladder, the condition of the ducts and pancreas should particularly be studied. If the

ducts are enlarged, it is probable that a stone has caused obstruction, and probes and scoops should be introduced and a clear passage into the duodenum established. In cases of doubt, the aspiration of bile through a fine needle may prove to be a useful guide as to the necessary operative procedure.

Carcinoma of the Gallbladder is usually associated with stones and often a purulent cholecystitis. The presence of pus in the gallbladder not associated with acute symptoms is very suggestive of carcinoma. Carcinoma of the gallbladder is associated with discomfort but rarely with severe pain or other acute symptoms in the early stages. Carcinoma eventually develops in about four per cent of all chronic forms of gallbladder disease and may readily be overlooked. Later the growth invades the liver and pancreas, with jaundice and other symptoms. The diagnosis rarely can be made without operation and the treatment is early cholecystectomy, perhaps with the removal of a wedge-shaped portion of the attached liver. Unfortunately, at present, the disease usually passes beyond the stage of operability before a diagnosis is made.

Cancer of the Bile Ducts is usually of columnar-celled type starting in the duodenal part of the common bile duct. It causes obstruction and jaundice and as a rule invades the adjacent pancreas and duodenum. It occurs slightly more frequently in men, especially between the ages of fifty and sixty-five and in thirty-three per cent gall stones are associated. When situated near the ampulla of Vater, the growth causes obstruction, distention of the bile ducts, enlargement of the gallbladder and liver and a progressive, painless jaundice with cachexia, anorexia, cholemia, delirium. Death finally results from the intense cholemia, obstructive cholangitis, portal thrombosis, rupture of the distended gallbladder, or internal hemorrhage in from three to six months after jaundice has developed. The diagnosis usually requires abdominal exploration and the rare instances in which the growth has not spread widely it may be removed with resection of the adjacent duodenum and possibly of part of the head of the pancreas. The divided common duct is ligated and the gallbladder anastomosed with the stomach or duodenum, while the cut end of the head of the pancreas is implanted in an opening in the side or in the end of the resected duodenum.

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(FINAL INSTALLMENT)

Many of you will, perhaps, recall the amusing incidents that Conan Doyle relates, in his inimitable style, in that volume of delightful tales, which revolve around medical life and are known as "Round the Red Lamp."

It is the experience of a young freshman, at a great medical school, who was invited by a senior to witness his first operation, in one of the crowded amphitheatres of medical Edinburgh, to be performed by one of the great master surgeons of the day. As he saw the patient, a poor woman, lying on the table, with a large tumor projecting from her neck, and as he "beheld the glittering tray of instruments, and saw the surgeon pick up the long, gleaming blade, dip it into a tin basin, and balance it on his fingers, as an artist might his brush, his head swam around and he felt that he was about to faint. He dared not look at the patient. He dug his thumbs into his ears, lest some scream should come to haunt him, and he fixed his eyes rigidly upon the wooden ledge in front of him. One glance, one cry, would, he knew, break down the last shred of self-possession which he still retained. He tried to think of cricket, of green fields and rippling water, of his sisters at home, of anything, rather than what was going on so near him. And yet, somehow, even with his ears stopped, sounds seemed to penetrate to him and to carry their own tale. He heard, or he thought that he heard, the long hissing of the carbolic engine. Then he was conscious of some movement among the dressers. Were there groans, breaking in upon him, and some other sound, some fluid sound, which was dreadfully suggestive still. His mind would keep building up every step of the operation, and fancy made it more ghastly than fact could have done. His nerves tingled and quivered. Minute by minute, the giddiness grew more marked, the numb, sickly feeling at his heart more distressing. And then, suddenly, with a groan, his head pitched forward, and his brow cracking sharply upon the narrow wooden shelf in front of him, he lay in a dead faint. * * * *

"When he came to himself, he was lying in the amphitheatre, with his collar and shirt undone. The third year man was dabbing a wet sponge over his face, and a couple, of grinning dressers were looking on * * * 'All right,' cried the novice, sitting up and rubbing his eyes, 'I am sorry to have made an ass of myself.' Well, so I should think," said his companion. 'What on earth did you faint about?' * * * 'I could not help it * * it was that operation' * * 'What operation?' * * * 'Why that cancer,' * * * There was a pause, and then the three students burst out laughing. 'Why you Juggins,' cried the senior man, 'There never was an operation at all. They found the patient did not stand the chloroform well, and so the whole thing was off. Archer (meaning

the professor) was giving us one of his racy lectures, and you fainted in the middle of his favorite story."

This is a good story, and it is especially interesting to us, as it depicts the experiences which many of us have gone through in the very beginning of our student days.

If time permitted, I would give somewhat similar accounts of my own sickly sensations on witnessing my first surgical operation. I could back this with many more similar tales from the lives of surgeons who have made great reputations for themselves, and for the profession, as operators. But is there anything suprising in this? Is it not natural that a boy, or a youth, son of gentle and good parents, brought up in normal, healthy, and moral surroundings, should not revolt, and should not feel his imagination and his nerves run riot with him, when brought deliberately face to face with what must shock him as a mutilation of a helpless fellow-creature? Does his fainting at the sight of blood indicate pusillanimity, or weakness, or inaptitude for the surgeon's vocation? Far from it. The fainting youth is just the sort of material that will make the best of surgeons, just as the raw recruit, who is frightened out of his wits at the first rattle of musketry, or the roar of cannon, becomes in time, a splendid veteran. The youth, who feels deeply, and struggles at his first surgical experience, shows that he is normal; that he is physically and physiologically sound. He shows that he has feeling, that he has imagination, that he has pity, that he has that human quality which will make him a humane surgeon. He is a man who will worry and who will, through his very sensibility, feel most keenly the burden of his responsibility when it will be his turn to be a leader and a master.

Such are the students, who, as Dr. John Brown puts it, "when they get over their professional horrors and enter into their proper work—in them, pity as an emotion ending in tears and a long drawn breath, lessens; while pity, as a motive, is quickened and gains power and purpose. It is well for human nature that it is so."

It is all wrong for people to believe that the sight of blood is indifferent to the surgeon. On the contrary, the older and the more experienced he is, the

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more anxious he is to conserve it, and to see as little of it as possible, in the course of his operation. Every real surgeon is happy when he can speak of his bloodless operation, and he is miserable when he has to admit that he spilled much of it in an unavoidably bloody one.

Gentleness, compassion, tenderness, do not exclude firmness. Persuasiveness and authority may travel hand-in-hand. Neither are resoluteness and an inflexible will incompatible with an inexhaustible patience and genuine sympathy.

"The bravest are the tenderest;
The loving are the daring."

* * * *

A surgeon's life is a very hard one. "It is a life of endless strain. During most of the hours of every day, his faculties are keyed up tense, almost to the breaking point, and physical tire goes hand-in-hand with mental exhaustion. He must carry, and carry naturally, the heaviest responsibilities."

An educated layman once said to Dr. Cheever, one of the most distinguished and honored of New England surgeons, "If you undertake an operation and do your part, and anything goes wrong, should you feel any more responsibility than the carpenter who does his job, and has no more anxiety about it?" Going a step further we have the uneducated public, who believe like Bob Sawyer's landlady, that surgeons are licensed cutters "without care or conscience." That this cannot be the enviable state of mind of the educated surgeon will be familiar to anyone of us who exchanges in his position, the calmness of an assistant for the anxiety of the principal in a capital operation. "Would that this callousness did more generally prevail," is often the wish of the over-worked and too sensitive surgeon. "Bad for humanity, but good for us," would be the verdict of all our brethren. This false estimate of the surgeon's indifference may be general, but it is, we repeat, almost never true.

The architect who swings a great stone noiselessly and safely into its place, the captain on the bridge of a coast nearing steamer, the locomotive engineer who runs the express, the commander of a great ship, freighted with human lives, entering dangerous waters, fearing the approach of a submarine—these are comparable examples of the alertness, the vigilance, the ever present and wearing anxiety of the surgeon, watchful of the field of danger beneath his knife. He also is burdened with the whole weight of the chances of life, or death, of his patient from his constitutional condition. How much can he stand, and how long can he stand it? These questions are ever present, "Is it safer to stop or to go on," are problems as familiar and as unpleasant to the operator's mind as the diagnosis and decision as to whether he shall begin at all. "In the present feverish condition of operative surgery," continues Cheever, "it may be prudent to ask ourselves first, what is the object of the operation; second, how shall we regulate our conduct in unforeseen contingencies?" Again, with Cheever, we may, perhaps, condense the problem into the following simple question: When to operate? When not to operate? When to stop? When not to stop? It can hardly be a disputable assertion that asepsis and immunity have rendered exploratory operations, based upon a halting

diagnosis, more frequent—far too frequent, because of their relative safety—than in the past. And yet, in dealing with the life and death of a human being, what operator of any sensibility can put aside the saying of the Roman philosopher, "I am a man, and nothing which relates to man can be foreign to me." (*Homo sum, humani a me nihil alienum puto*,—Terence).

To return to the surgeon and his worries. Of course, he will worry about his patients. Every conscientious man must do so. "A man who doesn't worry at all, doesn't care a whole lot," says Da Costa, and we all must agree with him when he says "I should not want a man who did not care a whole lot, operating upon me or mine." "Perhaps," as he says, "worry is a device of nature to make us try to do our best. If we knew we should not worry, we might be tempted at times to be careless. If a surgeon analyzes his worry, he can get a line on the sort of a man he is himself. If he worries only because he feels he may be sued, may lose a bill, or may hurt his reputation, then, with him, the voice of conscience is the fear of being caught. He must expect much harsh, unjust criticism, and when he is the victim of it, all he can do is to follow Joseph Pancoast's advice and make his shoulders broad enough to bear the burden. A surgeon must learn by self-surrender, and all his life must wear the iron yoke of duty."

Yes, the life of the surgeon is toilsome, anxious and responsible. It is a life of stress and strain. "It is small wonder that surgeons as a class are not long lived. The life is full of tragedy. Sometimes it seems as if a malign destiny were intervening in our affairs."

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This so impressed Velpeau that he came to believe in the rule of three. It so influenced Pirogoff that he wrote an essay on "Luck in Surgery."

* * * *

In again reverting to the worries of the surgeon, it is evident that the nature of the disease that it is our function to attack, and the condition of the patient, upon whom we operate, no doubt determine in great part the character and intensity of the emotions that are excited in us by the issue of our efforts against them. But if the nature of the ailment, which we are attacking, and the circumstances under which the operation is performed, exercise a modifying influence upon our operative and pre-operative attitude of mind, there is still another element which is equally significant and important in the influence which it exerts upon our psychic sensibilities—and this lies in the personality of the patient himself.

In spite of the triple coat of mail, with which the surgeon must often encase his heart, in order to accomplish his task successfully, he is nevertheless, a man, a human being, and, as such, he is unavoidably and most painfully affected by suffering and death when these overtake the young, the gentle, and the beautiful.

The following incident, occurring in the life of the venerable elder Gross, is related by his present worthy successor, Dr. Da Costa. He operated for stone in the bladder upon a beautiful golden-haired boy. The next day, he was walking along a hall of the hospital, with bowed head and stern, set face. Someone went up to him and said: "Professor Gross, how is that pretty child you operated upon yesterday?" Dr. Gross answered, almost fiercely, "That child is dying, and I wish to God I had never been the surgeon."

How many surgeons, placed in similar circumstances, have wished that they had never been born, or would willingly and gladly give up everything they possessed, if they could only restore to life someone lost who had trusted himself to their care.

Infirmity, disease and death in the aged, are natural phenomena. They present a fateful and unavoidable character that causes them to be accepted as the natural consequences of the usure of time, of the degenerative and atrophic changes of senility. The transition between life and death should be gentle in the winter of life. Death, under these conditions, is invested with a certain grandeur and poetry, if it comes to a man when he has completed his mission. He reaches home with the sunset, and with the departing day lies down on his couch and folds himself to rest and sleep, after the long day's work is over. "There is nothing to fear, nothing to dread, except by those poor souls that approach the problems of the unknown and unknowable eternity, with fear and trembling; who see before them a long night of terror; those in whom the imprint of ancestral superstitions and the seal of puerile dogmas have not been effaced, and who, rocked in the cradle with fantastic legends, still entertain visions of everlasting punishment; those who, in fine, look upon death as an eternal and terrifying ordeal, rather than a supreme and restful slumber."

But death is cruel, it is absurd, it is abominable, when it attacks the infant at the breast, and the child that is born to live. When it attacks the robust man,

in the plentitude of his virility and usefulness, and when his mission is only begun. When it destroys the young mother, leaving after her her orphaned offspring to the uncertainties of fate. But the most desolating death, that which cuts the deepest intaglio in the tablets of our memory, is the death of the young woman stricken in all the splendor and fragrance of her youth. If to the natural charm, sympathy and gentleness and confining trustfulness of youth, she possesses, in addition, the most visible and fascinating of the feminine qualities—beauty, we sum up a combination of elements which are calculated to intensify to the utmost the keenness of our undetachable responsibility.

How could the surgeon be human, and remain insensible to the splendor and magnificence of beauty, for "even in this century of science, and unsentimental practicability, as in the classic days of history, as in the remote civilization, as with the heroes of ancient Greece, as with the soldiers of imperial Rome, as it was with the divine artists of the middle ages and of the Renaissance, as it was the Raphael, Michael Angelo, with Leonardo, with Murillo, as it has been ever, everywhere, always, Beauty retains her splendor and her all-puissant attraction. And, when all else is swept away, she alone remains as the incarnation of the physical idealism of the race, the eternal sovereign, the sublime idol, before whom humanity is ever ready to incline and prostrate itself, and whom the gods themselves adored on their bended knees!"

"Beauty wields her sceptre and also commands with her puissant sovereignty in the hospital, in the bed where lie the injured and afflicted, on the operating table, even on the cold marble of the dead house—and that is why the spectacle of Beauty stricken by Death swells our hearts with a secret and undefinable pain and anguish, and an infinite bitterness." (Faure).

The approach of death is often accompanied in many patients, especially in those who are young, by a sort of calm and peaceful serenity, which is explained by the cessation of pain and the state of semi-consciousness, which is brought about by the profound intoxications. Under these circumstances, the features become finer, the nose thinner, the eyes sink perceptibly under the supra-orbital arches and are surrounded by a dark halo which contrasts with the ivory pallor of the visage. What purity, what gentleness, what nobility is often revealed in the pale feature of the dying woman when stricken in the bud and bloom of life!

What mysterious flames is that which lights those eyes, in their fixed gaze, as in a dream, just before they are extinguished into eternity!

Faure, one of the most distinguished and gifted of contemporary French surgeons, whose poetic appreciation of the psychology of the surgeon is the best contradiction to the statement that the surgeon is devoid of feeling and of sentiment, and whose fascinating and brilliant writings have inspired and

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prompted much of what I have just said and that follows, tells us of the following personal experience which is pertinent to the subject:

"Late one night, I was called hurriedly to attend a young woman who had been brought to the hospital in a dying condition. She had been seized that same morning with all the symptoms of a fulminating appendicitis, which had made frightful progress with every hour that had followed the onset of the attack. She was scarcely twenty years of age. Her face was pure and admirable. Her great dark eyes were gentle and confiding and the charm of her features was intensified by the pallor of suffering. Her grace, her charm, her beauty, and her gentle resignation, the tender and perfect confidence with which she gave herself up to our care, instantly created about her an atmosphere of irresistible sympathy, of devoted and fraternal friendliness.

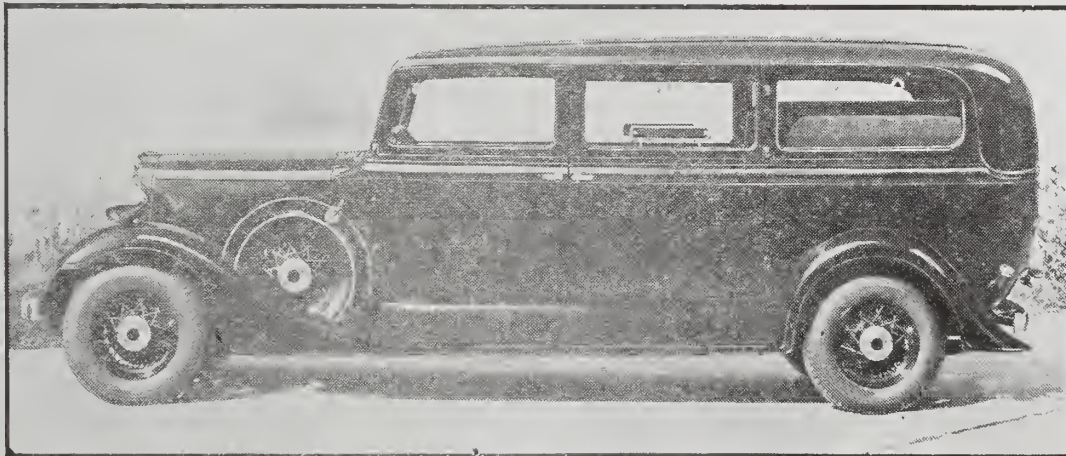
"Several of the internes, who were on duty, came to me to offer their assistance. They were all, as I was, struck by the beauty of this pure and gentle creature. In their young faces, although ripened by daily contact with human suffering and by their practical and arduous life at the hospital, showed plainly their deep interest and anxious concern. While I was examining the patient, they waited for my decision as for the sentence of a judge. Believing that it was my duty to give the unfortunate girl a chance for her life, notwithstanding the evidence of an overwhelming toxemia, I decided to operate, and we all proceeded in silence to the operating room. In a few minutes the patient was asleep and lying on the table under the glare of an intense light.

"The body of the young woman, white as that of a marble statue, was as pure, as noble, as perfectly beautiful as her faultless face. It seemed to me that it was something of a sacrilege and a profanation to open her admirable flanks and to plunge the edge of the scalpel into her sculptural body; even though this act were intended to tear away the envenomed sting of disease, and to wrest her from the clutch of death.

"The operation proved to us that the ravages of the disease were even greater than we had supposed and that there was little room left for hope. Then I felt around me the gloom cast upon us by our impotence, and the mute revolt against the decree of an implacable destiny; but hope is tenacious, and 'springs eternal in the human breast,' and is lighted up often by the feeblest encouragement. The next morning, the patient seemed better. I found her smiling and almost gay, as her sufferings of the previous day had been relieved. It was with infinite gentleness, with all the care and precautions that a mother would bathe her first born, that the first dressings were changed, and we were all comforted and cheered by a new hope. The next day, the merciless infection had asserted itself and claimed the victory. Our poor, dear patient, more beautiful if possible than ever, was dying. The great lustrous eyes, which grew larger with the approach of death, were now vacant and lustreless; her superb chest moved convulsively with each gasping breath and the tracheal death rattle kept time with the failing respiration. We stood by her, silent and motionless, with a strange grip on the throat and with eyes dimmed by uncontrollable

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tears."

These are cruel moments. If, in the course of an operation, the surgeon is assailed by violent emotions the rapidity with which they follow each other and the physical exertion in which he is engaged; sometimes, the very gravity of the circumstances in which he is placed, absorb all his energy and suffice to divert his mind from all other pre-occupations.

These violent and often terrible experiences do not possess, however, the poignancy and intensity of the more deliberate reflections which come on after the tragedy is over. Then the merciless, self-imposed, direct and cross-examination begins, in which the surgeon, standing before the bar of his own conscience, asks himself what part of the disaster may be attributed to his own sins of commission or omission; or if the outcome of that fatality is merely the result of accident and gratuitous circumstance, that which is called 'luck'—which no man can possibly alter or divert.

Among the experiences that surgeons go through most frequently, are those states of mind that make themselves felt in the course of the first two or three days following a critical operation. "It is usually during this time that the fate of the patient is decided. An unutterable feeling of doubt and apprehension hangs over the operator as he approaches the sick chamber. He feels then that in a few minutes, perhaps a few seconds, he will learn the good or bad news. A glance at the patient, a momentary feel of the pulse, will tell him that he is present at his triumph or his defeat. When all goes well, the relief to his pent up feelings is immense. His heart is relieved of a great burden, and everyone feels the vivifying stimulus of his restored confidence and cheerfulness. When things go wrong, which is happily the less frequent experience, or when some new or unexpected sign appears, which is the forerunner of a serious complication, no amount of self-control, or forced animation, can dispel the doubt and the anxiety that now dominate the surgeon's thoughts."

In the wards of a great hospital, or in the service of a surgeon of large reputation, whose operations of magnitude and of a critical character are performed almost every day, these hard trials with their inseparable emotions, recur with periodicity, and with little respite, to agitate and worry the sensitive and conscientious surgeon. Fortunately, they are not all of the same intensity, but they all leave their impress upon the physical and mental make-up of the surgeon who loves his patients and his work. These daily anxieties and trials are the little drops that, steadily falling, hollow the rock—*Cavant Lapidam, non vi sed saepe cadendo*. They are the ingredients that make up that tincture which bleaches up and makes us prematurely gray, if not bald and wrinkled. It has been well said that the surgeon leaves his mark on the bodies of his patients, but they plow theirs in the furrows and the wrinkles of his brow.

The business man insistently reminds us that "Time is money," but the surgeon is reminded, before he has gone over many milestones in his career, that time is life. Life, his own life, which he gives away freely, prodigally, daily, hourly, with all that is best in him; a life that those who grudgingly pay his bills, and those who do not, and those who are the recipients and beneficiaries of his bounty,—usu-

ally fail to appreciate.

* * * *

It is indeed an impassioned and troubled life, that is ours. One in which we can scarcely claim a single moment of mental ease and quiet. It has its great joys, its superb and glorious hours; but it has also its tragic hours, its hours of bitterness and desolation. and yet, the real honest surgeons, all love it. They love it, in spite of its fatigues, its worries and its emotions. "We love it," say Faure, one of its truest lovers, "We love it, because to the true votary of his art, surgery is beautiful; because it is great; because it is noble. Because, if it is a career involved in violent and often soul-stirring and heart-breaking emotions, it is also a source of deep satisfaction and lasting joy. Think of the mighty helpfulness of it, of how many lives it saves, otherwise hopelessly lost; of how many it frees from loathsome disease, from racking torture, from cruel deformity!" With Dr. Da Costa, let us think of its certainty, its quickness, of the numerous sciences and infinite details, all marshaled to aid us, and all put at our disposal.

"It is a triumph to successfully complete a difficult and dangerous operation and to know that we have done the best by the patient. It is a triumph to meet, and master obstacles. It is a triumph, a splendid one, to save a life by surgery. A man who has long practiced surgery, and practiced it well, has a right to feel that he has not lived in vain; but has done good to his fellowmen." (Da Costa.)

And that is why we love surgery, and, also, because it is infinitely varied, always offering us something new, something renescent. We love it, "as the sailor loves the sea which buffets him, rocks him on its bosom, and so often engulfs him; as the explorer loves the limitless desert, the inaccessible peaks and the thickest forests, in which he is lost, in which he suffers, in which he hungers and dies; we love surgery as the soldier loves strife and the bugle call of battle, in spite of all its terrors and its horrors, all its pains, its defeats." Yes, I repeat, surgery is a beautiful art. It is a noble and a soul-stirring calling. I have laid stress upon its pains, its bitterness; but "what joy can be sweeter, or can compare with that of conquering diseases, triumphing over nature, and to be even stronger than death!"

And, no matter how little it may be—how happy the moment of inspiration when we are able to conceive a fertile idea, an invention, or a discovery, which shall help to forge some new weapon against disease and death! What greater compensation than to know that we have done something that will survive our memory, and live through the lapse of time, even like the humble artisan who feels, when he has laid the stone, that he has helped to build an enduring edifice which is destined for ages to shelter his fellows, by caring for their miseries and affliction. Let no one speak without reverence of that magnificent institution which is called surgery. Let us love the spirit which animates and guides her true knights, for

THOMAS D. MOORE, M.D.
UROLOGY and UROLOGIC SURGERY
Suite 102-6
Physicians and Surgeons Building
899 Madison Avenue
Memphis, Tennessee

she makes her sons better, nobler men; because surgery is a sublime inspirer of the most useful, the most humanitarian efforts; inspirer of sympathy, of kindness and of pity for the feeble and the miserable and the unfortunate of our kind.

The life of the surgeon, though a hard one, is indeed a beautiful life. Let me repeat reverently these lines from Faure:—When the last hour comes to the conscientious and honest surgeon, no one can lie down to sleep the slumber of eternal night, with greater composure and peace. Happy is he, who, listening to the voice of his conscience, shall hear her murmuring in his ear the comforting words which tell him that, whatever his failings and shortcomings, he has done more good than evil; that on this earth, where joy and misery travel side by side, his hands, though blood-stained, not unlike those of the Savior, have relieved more suffering than they have caused pain.

THE END

Dr. W. H. Anderson Given Place With Roosevelt Memorial Association

Dr. W. H. Anderson, of Booneville has been elected as Vice President of the Roosevelt Memorial Association of the Tennessee River Valley. The Roosevelt Memorial Association will build in the Tennessee Valley a suitable Memorial to Franklin D. Roosevelt in recognition of what he has done for the development of this section and in recognition of what he has done to relieve our people from social and economic insecurity.

This Memorial will take the form of a Hospital for the care of crippled children, with special emphasis on Infantile Paralysis. This hospital is conceived to serve Alabama, Mississippi and Tennessee. In close proximity thereto will be erected a Museum and Hall of Fame of the south in which will be portrayed the development of this section from the days of the Indians down to the time our President's dream for this section has been fulfilled. This will be done by the construction, in this Museum, of two enormous Miniature Tennessee Valleys, one showing the Valley as it was when the Indians roamed the valley before white man had set foot in upon the soil of this great section. The other will show the Valley as it will be when all the dams are constructed and industrial and electrical development has come to full fruition. Many of the industrial institutions of the country, such as the L. & N. R. R., International Harvester, Chrysler Motor Co.; Western Union, Postal and many others have pledged their support towards making this Museum something outstanding in the south. In the Hall of Fame will be given recognition to many of our pioneers and moderns who have contributed to the building of the south. Many native Mississippians will merit recognition in this Hall of Fame.

Old LaGrange College Site Selected By the Roosevelt Memorial Association

The Site of historic old Lagrange College in Colbert County, Alabama, near Tusculumbia has been selected by the Board of Trustees of the Roosevelt Memorial Association as the location of the proposed Memorial to the President.

LaGrange was chartered by the Legislature of Alabama in 1830, being the first college ever chartered in that state and was built through the efforts of the patriotic people of Alabama, Mississippi and Tennessee. It is very fitting that this historic grounds should be selected at this time for another great undertaking sponsored by the same three states.

LaGrange flourished in its day and became one of the most famous institutions of learning in the southland. During the war between the states it was converted into a Military College for the training of officers for the southern army. These officers became so proficient that the high command of the Yankee Army sent an expedition into the Tennessee Valley and destroyed the college in 1863. Every building of the college and in the town of LaGrange, a town of some 600 inhabitants was destroyed in this raid of destruction and pillage.

There are unnumbered thousands throughout the nation who will rejoice in the fact that LaGrange will flourish again after so many years standing there a mass of ruins as mute evidence of a vengeance visited upon a people striving to protect their property.

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—PART 3—

HYGROMA COLLI, LYMPHATICO-VEINUS FISTULA LIPOMA

MIXED TUMORS OF PAROTID CYSTIC TUMORS OF THE MANDIBLE

ISIDORE COHN, M.D., F.A.C.S.

Professor and Head of the Department of Surgery
Graduate School of Medicine, Tulane University
Chief of Surgical Service, Touro Infirmary
New Orleans, La.

In the last Ward Rounds time did not permit the presentation of several cases which are pertinent to the subject under discussion.

The pitfalls in diagnosis which confront the surgeon would at times seem to be too absurd to be considered possible. The differential diagnosis between a hygroma colli and a lipoma might seem to fall in the category of absurdly easily avoidable errors. The following case emphasizes that the above attitude is not justifiable.

Case Greta Mae Williams, colored, female, age 6 years. Admitted to Charity Hospital April 20th, 1934. Complaint: Mass in the neck which has been present as long as the mother can remember.

On examination there was found a mass occupying the lower anterior cervical triangle and overlying the clavicle. The mass measured 8 centimeters by 3 centimeters. The skin was neither discolored nor thickened. There was no expansile pulsation noted. The mass transilluminated easily, it had a resilient feel, and while it was slightly lobulated it was apparently not fixed to the skin. There were no similar masses anywhere else on the body. A diagnosis of hygroma colli was made.

On April 26th, 1935 an operation was performed by Dr. Rogers Brewster. The mass proved to be a lipoma which was easily removed.

REMARKS: The location, just above the clavicle, the resiliency, the history of the existence of the growth for as long as the mother could remember, and the translucency of the growth all suggested that the condition was a hygroma colli. The apparent lack of attachment of the growth to the skin seemed to negate the probability of it being a lipoma. The absence of pulsation, either expansile or transmitted, made aneurysm an improbable diagnosis, and the fact that the growth was in the lateral aspect of the neck made any suggestion of the possibility of a thyroglossal cyst almost untenable.

It is true that hygroma colli are rare conditions yet we must be prepared to cope with it if by chance the growth proves to be a hygroma.

Since hygroma colli or lymphatic cysts are rare it might be worth while to revert for a little to the literature on the subject.

Dowd, in 1913, collected all of the available cases and added four of his own. Brief quotations from his classic work will add authority to this presentation. He believes that there are certain criteria which must be satisfied in order for a cystic growth in the neck to be classified as a hygroma colli.

1. These tumors are endothelial lined multilocular cysts containing serous material.

2. The endothelial structure should resemble that found in lymphatics and certain blood vessels.

3. They must be capable of independent power of growth.

Various theories of etiology have been advanced. As early as 1865 Arnold expressed the opinion that a congenital defect underlies the condition.

Based on the studies of Huntington, McClure and others Dowd states: "The most satisfactory explanation of the existence of these hygromas is that embryonic sequestrations of lymphatic tissue existed and that they had the power of persistent irregular growth."

In 1919 the late Dr. James E. Thompson stated that "lymphatic cysts (hygroma colli) are derived from the lymphatic sinus (jugular sinus) which is present in the third month of fetal life in the angle between the jugular and the subclavian veins."

In 1912 Herbert Willy Meyer, in a study of neck cysts and fistulae, stated "In mammals the lymphatic system begins in the neck in the two jugular sacs on either side near the junction of the internal jugular and subclavian vein. The lymphatic system is derived from the venous system."

"The two jugular and two subclavian sacs are joined in the lumen into one but this fact explains the extension of the later pathological lymphatic structures extending upward into the neck and downward under the clavicle."

Discussing the clinical aspects of hygroma colli Meyer states: "The hygroma occur essentially in early childhood. At birth there is a soft swelling at the outer border of the sternomastoid muscle just above the clavicle with one quarter below the clavicle. They are quiescent until they are stirred into rapid growth by an infection or childhood disease. They are soft and elastic with few symptoms and push the vessels and nerves aside in their expansile growth."

No statement with reference to the origin of the lymphatic system would be complete without quoting from the work of Florence Sabin.

"The lymphatic system begins as a series of endothelial buds which sprout out directly from the veins as a new type of vessels, namely, lymphatics. These buds unite to form plexuses which develop into sacs. These sacs may become lymph hearts."

"In the pig the lymphatics bud from the veins in two places, from the anterior cardinal veins and from the veins of the Wolffian body. There are two sets of paired sacs, the jugular and the iliac; and two unpaired sacs, the retroperitoneal and the cisterna chyli. In the most general terms the jugular sacs drain the anterior half of the body; the iliac sacs drain the posterior half of the body, while the retroperitoneal or prae-aortic sac drains the viscera. The jugular lymphatics bud off from the anterior cardinal veins, form large sacs in the neck, from which

R. L. SANDERS, M.D.
General Surgery

L. C. SANDERS, M.D.
Internal Medicine

M. P. KENDRICK, D.D.S.
Oral Surgery

J. CASH KING, M.D.
Consulting
Roentgenologist

Suite 324—Physicians and Surgeons Building
Memphis, Tennessee

lymphatics grow to the head and neck, the foreleg and thorax, and to the heart and lungs. From the left sac arises the jugular stem of the thoracic duct."

"The thoracic duct is formed in small part from a duct from the left jugular sac; in larger part from a plexus which surrounds the aorta from the cisterna chyli."

During the time of the preparation of this discussion the following rare, unusual and instructive case was operated on by me at the Flint Goodridge Hospital.

Case Helen Mae Mills, colored, female, age 2 years. Examination May 23, 1935, Dr. Isidore Cohn. Mother gave history that she had noticed a lump for the first time about one year previously, this followed, according to her statement, a cold. The lump disappeared. Two weeks before coming under observation the lump reappeared. There is no pain experienced and the child does not complain.

Examination: On the right side of the neck there is an elliptical mass which occupies the region from below the tip of the mastoid and extends forward to within about one-half inch of the midline. It is distinctly below the angle of the jaw. The skin covering it is not glossy. The shape of the mass can be altered by pressure. It seems to be well circumscribed and apparently has a definite range of motion both up and down and laterally. Movement does not cause any pain. The floor of the mouth is smooth, and it is not encroached upon by the cervical mass. Tonsils are very large, both sides. The mass is transilluminable.

Operation July 3rd, 1935. Pre-operative diagnosis: Branchial cyst. Post-operative diagnosis: Same or lymph cyst with persistent fistulae between lymph structures and jugular vein. Ether anesthesia. Patient's head was hyperextended and rotated to the right side. Incision was made from tip of mastoid downward along the anterior border of the sternocleido-mastoid to the level of the omohyoid muscle. As soon as skin and subcutaneous fat were dissected, one could see through the thin platysma the bluish cyst wall. The platysma was cut and the cyst wall which was closely adherent to the platysma was dissected away from it. At this stage a nick was made in the cyst wall, unintentionally. A clear serous fluid was evacuated. So as to avoid losing some of the lines of cleavage the opening was clamped. Cyst was dissected forward and away from the sternocleido-mastoid muscle, under which it lay in part. As soon as sternocleido-mastoid was freed the cyst was dissected laterally at which time we saw the jugular vein, deep to the cyst. In order to see the anterior limits of the cyst, it was opened. A very interesting thing was observed. The walls of the cyst showed loculations and lying within the sac on its posterior wall was a circumscribed blackish blue mass $\frac{5}{8}$ inches in diameter. The impression was that this might be a portion of the jugular vein. It did not empty nor fill with respiration as the remaining portion of the jugular did, but seemed to be firm. Lines of cleavage were found below the sac and jugular vein which was dissected away with the scalpel. At the upper

limit of this line of cleavage we could see two small tributary veins coming from the mass into the sac emptying into the jugular. These were clamped, sectioned between clamps and they were immediately ligated. At this stage the common carotid was seen medial to the jugular. The posterior belly of the diaphragm muscle was cleared. Entire sac wall and bulbous enlargement which was believed to be aneurysmal dilatation of jugular within the sac of the cyst was then removed. Very small bleeding points were ligated. Sternocleido-mastoid was dropped back to its normal place. Platysma was sutured. External anterior jugular vein was not severed. There were two glands lying along the posterior aspect of the cyst and adherent to the wall of the cyst and jugular vein. Skin was approximated with continuous locked dermal sutures.

This case presented all of the clinical criteria accepted for the diagnosis of congenital cysts of branchial origin. At operation we found two striking phenomena, both of which are described in the operative notes. (1) There was found within the sacs lying on the posterior aspect (that part of the sac which was closely approximated to the jugular vein) a circumscribed globular bluish-black mass; (2) There were two tributary veins connecting this mass within the sac to the internal jugular vein.

These findings cast doubt on the diagnosis of branchial cyst and on the other hand suggest that the cyst is a congenital lymphatic cyst or hygroma colli with persistent fistulae between the jugular vein and the lymph cyst. This then would represent the unusual condition which might be called a lymphatic venous fistula or lymphatic venous aneurysm. The only means of differentiation will be the histology of the lining of the cyst wall. If the walls are epithelial in character we will know that we were dealing with a branchial cyst, and if the cells are endothelial in character we will have evidence of having dealt with a condition so rare clinically that thus far I have not seen a mention of it in the literature. If proven to be a lymphatic venous fistula it will be clinical proof of the well known work of Sabin, McClure and others on the origin of the lymphatics of the neck from the jugular sac. This case would provide the two essential criteria of Sabin of the origin of lymph structures,—a budding from the jugular sac and an endothelial lining.

Summarizing the above we may say:

1. That a cystic mass presenting soon after birth

PERCY B. RUSSELL, JR., M.D.

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in the lateral plane of the neck just above the clavicle may prove to be a lymphatic cyst (Hygroma colli).

2. A fistula between a lymph cyst and the jugular vein may persist.

3. These cysts have their origin probably as a result of sequestration from the original jugular sac. They are endothelial lined.

4. They grew rapidly at times and if not removed completely they recur.

5. Complete removal may necessitate section of the pectoral muscles, as these cysts at times enlarge downward into the axilla under the pectorals.

If the above facts are kept in mind it is easy to realize that dissection of lymphatic cysts must be carefully done. The danger of injury to the subclavian and jugular veins must not be minimized.

It is better to err on the side of expecting to find a hygroma and find only a lipoma, than the reverse.

In one case cited a branchial cyst was suspected and a lymph cyst with a persistent fistula between the lymph sac and the jugular vein was found.

Fortunately for the patient in one case a lipoma was found and its removal was easy.

Let me remind you, however, that there were several points of accepted diagnostic value which failed us in this case. This is but an additional reminder that diagnostic errors are not uncommon.

Before leaving the subject of lipomata it might be well to remind you also that there are several technical points worthy of consideration in the removal of so simple a thing. Fine dissection in contrast to blunt scissors "poking" is essential if one would avoid infection or liquifaction of fat with consequent delay in healing.

If the lipoma is large it is wise to remove an elliptical portion of skin with the mass so as to avoid having redundant skin at the end of the operation.

Careful hemostasis is essential.

All dead spaces must be obliterated. This can be easily accomplished by making use of elastic compression. For this purpose a piece of sponge rubber is particularly useful.

MIXED TUMORS OF THE PAROTID

The next group of cases involving the parotid gland have many points of interest to the surgeon and the patient alike.

Case Louisa Mitchell, colored, female age 53 years. Admitted to Charity Hospital April 22, 1935. Complaint: Swelling of the left side of the face for about eighteen months. The mass was painful at the onset and at intervals the swelling would alternately increase and diminish in size. The swelling would at times be diminished by the "introduction of a probe by the doctor from within her mouth." By this she evidently meant that the doctor would catheterize Stenson's duct. Clear material drained from the catheter. One and one-half months ago her doctor "lanced" the swelling and a large amount of "pus" was removed.

Examination: There is a mass which begins about the level of the zygoma and extends down to a little below the angle of the mandible. As a result of the presence of this mass there is a loss of symmetry of her face. The mass is about one and one-half inches wide, it is firm and not adherent to the skin. There is no fluctuation nor

noticeable pulsation within the mass. Cervical glands are not enlarged.

Examination of the ear, nose and throat show no involvement of these regions.

Stenson's duct was injected with Lipiodol and the ramifications of the duct could be seen from the radiograph. There was no evidence of a stone in the duct.

Believing that we were dealing with a tumor of the parotid an operation was advised and on June 17th excision of the parotid tumor was done.

Operation: Primary incision made from the tip of the mastoid in a semilunar fashion, extending downward to the angle of the jaw and then along the anterior border of the sternomastoid. The common carotid was exposed, a tape as placed around it temporarily, not as a ligature, but as a retractor so that in case there was hemorrhage the external carotid could be ligated. A second incision was made from about the level of the zygoma in front of the tumor so as to circumscribe the tumor, the second incision, at its lower point, merged with the first incision. It was necessary then to excise the mastoid attachment of the sternomastoid muscle. The jugular vein and its tributaries were intimately adherent to the under surface of the tumor. The tumor was then dissected away from the jugular vein and it was then possible to completely excise the tumor. At the upper limit the temporal artery had to be clamped and ligated. In order to carry out the dissection for the removal of the tumor, it was not only necessary to dissect away a portion of the attachment of the sternomastoid, but also the posterior belly of the digastric muscle. At this point, all the vessels which had been clamped were ligated, some with tranfixion ligatures, particularly the larger tributaries of the jugular which was surrounded by a great deal of scar tissue. The sternomastoid mastoid muscle was approximated in part of its length to the sternohyoid and sternothyroid muscles through the connective tissue plane overlying these two muscles. A piece of Penrose tubing was introduced under the muscle and the skin was approximated with interrupted Blair-Davis-Burdick sutures.

Case, Janie Ringold, colored, female, age 39 years. Diagnosis: Mixed tumor of the left parotid. Admitted to Charity Hospital October 16th, 1934. Complaint: Tender mass in left side of the face for eight years. Patient stated that ten years ago she had had mumps and thereafter had a small "kernel" in front of the left ear. Six years and four years ago respectively she was operated. Two years ago another growth was noticed by the patient. This has continued to increase in size until the present time.

Examination: There is a lobulated, hard mass anterior to the ear. The skin overlying the mass

DR. E. C. ELLETT
DR. R. O. RYCHENER
Ophthalmology
1720 Exchange Building
Memphis, Tenn.

is marked by the scars of previous operation. The lobular masses are smooth and move independent of the skin. There is no pulsation or fluctuation.

X-ray of the chest showed no metastasis.

On October 22nd, 1934 an operation was performed for an excision of the parotid tumor.

Pathological report mixed tumor of the parotid.

A facial nerve paralysis resulted.

Case Alphonse Vincent, colored, female, age 62 years. Diagnosis: (1) Mixed tumor of the parotid, (2) Paget's disease. Admitted to Charity Hospital May 29th, 1934. Complaint: Swelling of left side of the face. This was first noticed about one year before coming under our observation.

Examination: The mass which is in front of the left ear extends from the region of the zygoma to about one inch above the angle of the jaw. The mass is not attached to the skin, but it is firmly attached to the underlying structures. It is soft and cystic to the touch. The palpebral fissure on the left side is larger than on the right. Cervical glands on both sides enlarged.

X-ray pictures of the skull and long bones gave evidence of Paget's disease. On account of her age and the existence of Paget's disease it was felt that nothing would be gained by an operation. For that reason no surgery was done.

To the above cases in the wards of Charity Hospital I would add two cases operated at Touro Infirmary. These two cases illustrate many important points to be remembered when dealing with this unfortunate condition. For convenience these points will be discussed under the following headings.

1. Anatomic
2. Clinical course and
3. Response to treatment
1. The anatomic points of interest are:
 - a. Location of the parotid gland and its relationship to the surrounding structures.
 - b. Anatomic peculiarities, such as accessory glands and extra ducts.
 - c. The blood supply and proximity to important vessels.
 - d. Nerve supply and nerves that penetrate the gland.

Location. It is anterior to the ear and lies between the zygoma and the angle of the jaw. At times there is a deep projection from the lower portion which extends under the mastoid and well below the angle of the jaw. There are also at times accessory glands and accessory ducts. The main duct, Stenson's duct, is about 2½ inches long, it crosses the masseter muscle, dips into the Buccinator muscle, then opens on the inner surface of the cheek opposite the second molar tooth of the upper jaw. There are at times accessory glands.

The blood supply and proximity of important vessels. The external carotid artery passes through the parotid gland and at times within the body of the gland giving off its terminal branches,—posterior auricular, temporal and internal maxillary.

The temporal and internal maxillary veins which are tributaries to the internal jugular pass through the parotid gland.

The internal jugular vein and the internal carotid artery lie close to the under surface of the parotid

gland.

The temporo-facial branch of the facial nerve passes forward through the parotid gland.

The importance of the above facts must be appreciated by one who undertakes excision of these tumors of the parotid gland for the following reasons:

A well planned operation must be done to avoid unnecessary hemorrhage. Such a planned operation consists of preliminary exposure of the carotid for temporary or permanent ligation of the external carotid and in addition in some cases preliminary exposure and ligation of the temporal artery.

Such preliminary procedures diminish bleeding and the confusion which results from a field which is constantly being soiled.

The patient must be told before operation that a facial paralysis will result.

When one considers the anatomic facts which have just been cited with reference to the branches of the facial nerve which pass through the parotid gland it is relatively easy to appreciate the fact that complete removal of a gland or a tumor of it without injury to the branches of the facial nerve passing through the normal or diseased gland is impossible.

The danger of infection from within the mouth should be guarded against by attempts to ligate the duct or ducts if possible.

The above cautions, particularly with reference to the planned operation, have been in use by us for several years as will be illustrated in the following case reports.

Case J. K., white, male, age 38 years. Diagnosis: Mixed tumor of the parotid. Admitted to Touro Infirmary August 1st, 1927. Complaint: Swelling of left side of face. Four years ago, patient states, he was struck on the left side of the face. Three days following this injury he noticed a swelling, the size of an egg. This swelling was very painful.

Examination: On the left side of his face there is a circumscribed mass about 2½ inches in the long axis of the body and three inches in the transverse, just anterior to the ear. The upper limit is about the level of the zygoma. The lower limit extends below the angle of the jaw. The skin overlying the mass is movable and it is not red nor infiltrated. The mass is firm and apparently not nodular. There are no glandular enlargements in the digastric or other cervical triangles. The mucous membrane on the inner side of the cheek shows no infiltration.

On August 3rd patient was operated, the following is a description of the operation.

Operation: Incision. Ligation of external carotid between the superior thyroid and lingual artery. Removal of parotid gland.

The head was turned to the left, sand-bag under neck. Incision made from the angle of the jaw, down and forward along the anterior border of the sternomastoid muscle. Sternomastoid re-

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tracted out and the large vessels of the neck exposed. Two ligatures were placed around the external carotid above its first branch. It might be well to note that the carotid was deeply placed, besides mesial to the jugular it was posterior to it.

After ligating the artery we then made an incision from the level of the zygoma extending downward behind the mass close to the ear, and far enough down to meet the upper limit of the previous incision.

The skin and subcutaneous fat anterior to the mass was then dissected away from it forward so as to expose the entire parotid gland tumor. The tumor was dissected away from the digastric muscle and the masseter. The duct was ligated and after which the mass was entirely removed.

After removal we noted that there were two or three large glands lying close to the jugular, just over the digastric muscle. These glands were removed. Very little arterial bleeding was encountered. Many small bleeding points had to be ligated.

The skin wound was closed with interrupted mattress sutures and dermal relaxation sutures. A small Penrose tube was introduced at the lower end of the wound for drainage.

Specimen sent to the pathological department for examination, but before sending it a macroscopic examination was made. On section it was found for a greater part to be hard in consistency, very like fibrous tissue. Cavity in the upper portion of the mass which probably had contained some fluid.

Case Mr. J. W., white, male, age 67 years. Diagnosis: Mixed tumor of the parotid. Admitted to Touro Infirmary June 14th, 1930. Complaint: Tumor on left side of the face. Patient had always been in good health with the exception of the fact that he had had a tumor of the left side of his face.

Sixteen years ago patient had tumor just anterior to the left ear. This was removed by a physician. He states that the characteristics of the mass at that time were a painless, hard mass which had grown to the size of an egg in about four months. Following the removal of this he was apparently free from pain or tumor until four months ago when by accident he discovered a small lump in the left side of his face while in the act of shaving.

Examination reveals a tumor mass about the size of an egg, just anterior to the left ear in the region of the parotid gland. It is hard and seems fixed to the deep tissues. It is not perfectly smooth. The mass extends below the lobe of the ear to cover the ramus of the mandible. Just anterior to the larger mass there is a small circumscribed nodule which is not connected with the other mass.

On October 17th, 1930 the patient was operated upon. Excision of the parotid tumor and ligation of the external carotid artery was done.

Pathological report squamous cell carcinoma, differentiating poorly.

The operation was followed by a complete paralysis of the distribution of the facial nerve.

2. **Clinical Course.** The cases which have been observed and of which we have records for this report:

1. Show no predilection for either sex or race.
2. All of the cases which are recorded in this report have been on the left side. I am not sure whether this experience is peculiar or whether it is in line with the experience of others.

3. The cases range from 38 to 67 years.

4. The growth had existed from one to eight years before the patients came under observation.

5. Recurrence after the original operation appeared as late as sixteen years.

6. None of the cases observed showed distinct metastasis, not even to the neighboring lymph nodes.

7. The characteristics noted have been fairly uniform—a painless, slow growing, firm, and at times, nodular mass located in front of the ear. The upper limit of the mass is a little below the zygoma and at times it extends down well below the angle of the jaw.

In the first and second instance the major portion of the mass has been noted below the angle of the jaw in the posterior portion of the digastric triangle.

8. The growth may be present for many years without affecting the general health of the patient.

9. In no instance have I been able to avoid producing a facial paralysis when a radical operation has been done.

10. It is conceded that X-ray and radium are not effective agents in this lesion.

With the above gloomy facts before us let us turn to the literature for such help as can be obtained.

Joseph McFarland has repeatedly studied the subject and in 1933 he reviewed 404 cases. From his work the following statements are taken.

"The small tumors had an average pre-operative duration of about 5 years, the ordinary sized tumors, of about 10 years, and the large tumors of about 20 years."

"Treatment. The time-honored treatment of tumors of the parotid region is surgical excision and is still generally practiced, though irradiation is being tried."

"Excision of these tumors fails in from 25 to 30 per cent of the cases."

"There need, ordinarily, be no hurry in removing it in so far as its growth is concerned."

"One of the most distressing accidents that may result from the operation is the destruction of the facial nerve."

"After excision of any type of parotid tumor,

GILBERT J. LEVY, M.D.

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recurrence may take place at any time up to 30 years."

"This makes it difficult to be certain that any case is cured."

"It also makes it certain that the tumors are malignant in themselves and not by virtue of any sarcomatous or carcinomatous degeneration."

"Except in the rarest cases there is no metastasis so that the type of malignancy is peculiar."

"It is not advisable to operate upon the tumors when small, as the smaller tumors are the more apt to recur."

"Such data as are here offered suggest that except to improve the appearance and ease the patient's mind, it might be just as well not to operate upon these tumors."

"It seems, as usual, that very little benefit to the patients has accrued from operation directed toward the removal of the rapidly malignant tumors."

"Whatever is to be decided upon, haste is probably never necessary, and when operation, the accidents of facial palsy, salivary fistula and recurrence should be carefully considered for fear that more harm than good be done."

Summarizing personal experiences and the literature one is confronted with the question--is it justifiable to operate in these cases? The answer can only be based on careful judgment in each case after presenting all of the facts to the family of the patient. These facts include the present lack of an effective measure to cure the disease by non-operative measures, and the impossibility of promising more than a palliative result by surgery and one which will certainly be associated with a facial deformity. Indeed a hard decision to make.

This is indeed one of the problems to be solved by the enterprising research workers of the future.

CYSTIC TUMORS OF THE MANDIBLE AND MAXILLA

Central cystic tumors of the mandible and maxilla have been discussed in hundreds of papers and many different names have been applied to these tumors. Equally as many theories of origin have been advocated.

Bearing these facts in mind the following record is presented in order that it may serve as the basis of a discussion on this subject.

Case, Electa McConnel, colored, female, age 25 years. Admitted to Charity Hospital August 25th, 1933. Complaint: Swelling of left jaw which had been present for thirteen years. The mass grew rapidly after the third year. The lesion in the mouth "broke down" two months ago.

Examination: There is a marked loss of symmetry of the face and neck. There is a circumscribed mass which extends from the mental foramen to the angle of the jaw which overhangs the anterior portion of the digastric triangle. There is a small ulcerating area near the dome of the mass. The skin over the mass in other portions shows no change. The mass is not adherent to the skin except at the point mentioned. The walls of the tumor seem to be of a thin, almost parchment like, consistency. With the mouth open the mass seems to bulge into the left side of the floor of the mouth, giving the appearance of being an expansion of the body of the mandible. The

mucous membrane was not thickened over the mass. There are no enlarged cervical lymphatics.

Summarizing the findings thus far:-

1. The tumor had been present for thirteen years and yet it had not affected the patient's general health.

2. The mass had a parchment or egg shell-like wall.

3. The neighboring glands were not involved.

4. It is fair to expect the X-ray to show a central type of tumor of the mandible which had expanded and thinned the walls of the jaw. This is what was found

Such a tumor then can be classified as a cystic tumor of the mandible.

The next problem is how shall it be designated so that there will be less confusion when one attempts to classify it with other tumors reported in the literature.

Among the recent valuable contributions we might accept the summary of past literature by John T. Murphy of Toledo, Ohio, in 1924, and Kegel in 1931 and 1932, as fairly representative of the modern conception of this subject.

John T. Murphy reminds us that the following terms are often used "cystoma, cystic tumors of the jaw, multilocular cysts, adamantine tumors, adamantinoma, adamantine epithelioma, and odontoma."

Broca in 1869 suggested the use of the term "odontoma."

Borst in 1902 suggested the term "adamantinoma."

Bland Sutton, Brophy, Gilmer and others had suggested classification into various groups depending on the preponderance of certain cell elements.

Malassez in 1885 found masses of cells which he believed to be the remnants of the dental ridge and epithelial structures originating from it. He called these cell masses "paradental epithelial debris." He expressed the view that cystic or solid tumors of dental origin arise from this "paradental epithelial debris." This theory has been rather generally accepted.

In describing these tumors Murphy states:

"These tumors develop in the interior of the jaw bone, which may remain as a thin parchment-like covering. Vary in size from that of a plum to that of the head of a child, but are most frequently about the size of a hen's egg. Most of the tumors described have been cystic. The cysts usually contain a clear, yellowish slightly viscid or serous fluid in which cholesterol crystals may be present."

"The tumor is fluctuant; on depressing the anterior wall of the mucosa a parchment-like crepitation is heard which is pathognomonic of these cystic tumors of paradental origin."

"The lower jaw is the chief seat of cystic tumors while solid growths occur more in the upper jaw."

Richard F. C. Kegel collected 35 cases, "29 were of the lower and 6 of the upper jaw."

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"Roentgen Appearance. The roentgen appearance of the adamantine epithelioma of the lower jaw is that of a central bone expansive tumor. The bone is bulged outward with clearly demarcated outlines. The lesion may be either moncystic or polycystic."

"Gross Pathology. The gross pathology of the adamantine epithelioma is characteristic. The tumor may be divided into two groups, the cystic and the solid. There is no sharp differentiation between these two, some tumors showing both a solid portion and cystic areas."

"The glistening smooth-walled cysts are filled with a substance varying in consistency from a creamy to a watery fluid, and in color from grayish white to brown."

"The lining of the large cysts varies from a stratified to a transitional type of epithelium. The largest tumors are polycystic."

"Treatment. The operation of choice is curettage followed by chemical and thermal cautery, as advocated by Bloodgood."

"When the tumor is polycystic, so that curettage and cautery are unable to reach all the recesses to which the tumor may have extended, partial or total resection of the jaw bone is recommended."

"X-ray or radium has been tried in 6 instances, and in none of them has a beneficial result been noted. The adamantinoma is radio-resistant."

So much for the literature.

The cases of cystic tumors of the jaw which I have observed can be divided into two groups (1) the dentigerous cysts, and (2) the adamantinomas.

Dentigerous cysts are usually not very large. They contain an unerupted tooth and a clear fluid. The walls are thin and there is a lining membrane of epithelial cells.

The following case illustrates the characteristics, the treatment and the results in such an instance.

Case Miss J. M., white, female, age 11 years.

Complaint: Swelling on left side of face noticed about two weeks before coming under observation August 18th, 1920.

Examination: Slight loss of symmetry of the face. The right cheek presents a small prominence which extends upward to the middle of the nose, lower limit corresponding to the level of the alveolar margin. The swelling has been larger than it is now. The skin is not red, nor glossy. The skin of the right cheek is not adherent to any underlying tissue and is freely movable.

There is a circumscribed, apparently, bony enlargement on the right side. Some tenderness over the malar bone. On opening the mouth we see that the mucous membrane is red. There is a fulness to the right of the prominence. There is a small sinus over the canine tooth, and when the mucous membrane is made taut over the prominence we can see the outline of an underlying bony swelling. This bony swelling is elastic and apparently very thin.

The X-ray showed an unerupted tooth on the right side and there is, apparently, a cyst cavity in which this tooth lies. Diagnosis: dentigerous cyst.

Operation August 20th, 1928: Incision was made on the right side of the frenum about one and a half inches outward. Mucous membrane

was reflected upward, the thin bony wall of the cyst was thoroughly exposed, and removed with a rongeur. The cavity which was then exposed was seen to be about the size of a small walnut, contained considerable debris and it was lined by a thick, velvety membrane.

At the upper limit of the lateral wall of the cavity a tooth was seen, the tooth was lying in a plane, transverse to the axis of the body. The tooth was removed. It was a fully developed tooth. The lining membrane was removed. The bony cavity was packed with a strip of gauze which was saturated with compound tincture of benzoin. Two sutures were introduced to approximate the mucous membrane over the pack, for the purpose of keeping the pack in situ.

The end result was complete healing of the cavity. There was no loss of symmetry of the face, and no recurrence up to date.

The adamantinomas which have been studied have involved both the maxilla and the mandible. The size varied from that of a walnut to one-half a grapefruit, that is from 2 to 6 inches in diameter.

The characteristics of these lesions may well be illustrated by abstracts from histories of these cases.

Case Mrs. K. J., white, female, age 39 years.

Examination: On the left side of the face there is a circumscribed swelling, the upper limit of which corresponds to the lower limit of the zygoma and the lower limit corresponds to the angle of the jaw. The mass is firm, but fluctuant. There is an egg shell crackling sensation. The cheek, on the inner side, when the patient opens her mouth, seems to be filled by the mass.

Case Reuben Payne, colored, male, age 60 plus.

Examination: Loss of symmetry of the face. There is a large hemispherical mass, the upper limit of which corresponds to the zygoma, the lower limit about the level of the hyoid bone. Anteriorly it extends to the angle of the mouth, posteriorly, to the mastoid process. The skin is not glossy nor does it look edematous. The veins are not prominent. The mass seems to be nodular.

Measurements—antero-posterior diameter 18 centimeters, from the upper limit to the lower limit 18 centimeters.

The skin is movable over the mass. The mass has a resilient feeling in places, it is fluctuant. There seems to be a thin bony wall, which in places feels very much like an egg shell. The mass itself seems to be fixed to the mandible.

The mass shoves the mucous membrane forward into the floor of the mouth, almost to the midline. The mass is translucent.

Summarizing these findings:

1. Location. There is a mass over the region of the maxilla or mandible.

2. The duration of the growth before the patient has come under observation has varied from a few

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Suite 410-414
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899 Madison Avenue
Memphis, Tenn.

months to several years.

3. There are no skin changes.
4. The limiting wall is thin, bony in character and gives an egg shell-like crepitant sensation.
5. The tumors are transilluminable.
6. The X-ray appearance may be that of a single or polycystic expansion of the maxilla or mandible.
7. There are no primary glandular involvements.
8. The treatment in these cases consists in removing all of the involved tissue even if that amounts to resection of the bone.

There are certain fundamental principles to be observed:

1. The nutrition must be maintained.
2. The mouth must be kept clean and dry.

These indications are met by the use of the indwelling nasal catheter of Levin for the purpose of supplying adequate nourishment. One may give as much as 3500 calories in 24 hours through the catheter.

A suction apparatus should be used to avoid aspiration of infected material into the trachea. This precaution minimizes the danger of lung abscess or pneumonia.

A mosquito net over the bed obviates the need for dressings. Dressings when used soon become soiled by saliva and wound discharge. The skin becomes macerated and infection is a natural consequence.

In order to diminish secretions a light furnishes sufficient heat to maintain a dry field.

In order to screen out the glare a blue globe is used. This particular idea was suggested many years ago by George Crile.

Following the above routine the convalescence of the patient is much shorter and made more comfortable.

(To be continued)

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Some Symptom Complexes and Their Meaning,

REFERRING TO HYPOGLYCEMIA, DIVERTICULITIS, SUBARACHNOID HEMORRHAGE, AND THE NERVE SYMPTOMS OF PRIMARY ANEMIA.

W. H. WITT, M.D.
Nashville, Tenn.

The language of Disease is a fascinating study and loses none of that fascination for being as varied as human re-actions, as varied as the multitudinous pathological processes that take place in the human body. The purely physiological functions beget a certain group of responses in the objective and subjective phenomena of the so called healthy man—these phenomena varying with the psychic and physical make up of the person concerned. If our physiological processes become upset by disease, or by the fear of disease, there occur an infinite group of symptoms and physical signs that affect the subject's mental state—usually at least—and bring him to the man of Medicine for their interpretation. And when that happens there begins a pursuit that becomes a victory—or, too often, a defeat on the part of said man of Medicine. How the many subjective and objective findings have slowly—so pathetically slowly—found a proper interpretation on the part of the Doctor is one of the most moving stories in human history. How far from perfection it still is, is a strong incentive to further study—exceeded only by the incentive to prevent or correct those abnormal changes that give rise to these symptoms.

How a knowledge of Anatomy, Physiology, Pathology helps in the analysis of symptoms is only too evident. But they are not enough—always—even if we were perfectly informed. The psychic make up of the patient is only too often a factor in modifying subjective phenomena so that we are misled by their intensity or lack of intensity.

We often wonder at our tardiness in the proper interpretation of certain symptoms or group of symptoms—or as we now call it a certain syndrome—syndrome if you please. How long it took us to get a line on the symptoms of peptic ulcer—so plain that one rarely makes a mistake if the history is properly taken! Or of coronary thrombosis, that lately discovered syndrome that Sir Douglas Powell and Clifford Allbutt knew most all about forty years ago—and that the former describes so beautifully in Allbutt's System of Medicine. So with the symptom complex of cervical rib, syringomyelia, stone in the common duct—and the lowly but not to be despised flat foot. By close observation and classification of symptoms—joined with a study of the pathology and the altered physiology we learn to estimate very accurately what lies behind certain groups of symptoms. We must not forget, though, that the patient may not readily unfold his symptoms—they often have to be dragged out of him—the least important to him being probably the most significant to his doctor.

I purpose to deal briefly with four symptom complexes that have in very recent years come to be of real importance to the physician—complexes that I feel very sure are too often overlooked. It has been

DRS. O. S. McCOWN — O. S. McCOWN, JR.

GYNECOLOGY—UROLOGY—SURGERY

899 Madison

Memphis, Tennessee

my fortune to see an unusually large number of three syndromes—considering the length, breadth and thickness of my practice, while of the first to be taken up I have knowingly seen none. So I shall first call attention to the symptoms suggesting Hypoglycemia—a condition studied seriously and written about informally by our neighbor in Birmingham—Dr. Seale Harris.

HYPOGLYCEMIA. Hypoglycemia, elegant Greek for a too low amount of sugar in the blood is, in a sense, equivalent to hyperinsulinism—too much insulin manufactured by the pancreas. This Insulin gets busy and the sugar is used up. The ill effect of too large a dose of insulin in the treatment of a diabetic is well known to physicians and so impressed on the patient that he recognizes the hunger, or restlessness, or stupor that results from an over dose. The wise patient then reaches for his candy or his orange juice and all is well. Unconsciousness and convulsions have also been produced purposely or by accident from excess of insulin. It is interesting to note that the blood sugar at the time of such reactions may vary rather widely. It is not so well known that there are an indefinite number of people—probably not many—that manufacture too much insulin and there ensues a group of symptoms that are striking and may be serious. These symptoms are varied in their nature and they occur under most varying conditions—and fail to appear under circumstances seemingly the same under which they occurred before. But that is true of many other pathological states—they do not always give the same symptoms. The outstanding symptom of hypoglycemia is a generalized convulsion—entirely similar to the convulsion of epilepsy. The usual unconscious state follows and after minutes or hours the patient recovers his normal state. Other symptoms, less striking but easily observed by the patient or the family are mental confusion, stupor, lapse of memory, unconsciousness—many of them very like Petit Mal. They may last from a few minutes to hours. Given these bizarre and unaccountable attacks of mental confusion simulating Petit Mal, lapses of memory, or convulsions, even in certain cases supposed to be epileptic, hypoglycemia should be thought of, the more so if the patient is over twenty years of age. Blood sugar of 60 milligrams or less will favor such an explanation. Quite a number of cases of this type have been operated on and a part of the pancreas removed with cessation of the attacks. In some of these a tumor was found and in others none—but partial removal resulted in a cure. In a number of cases dietary treatment has been successful. Harris holds that a low carbohydrate intake with frequent feedings is safer than a high intake, the latter seeming to act as a stimulus to insulin production. Dysfunction of other organs have been proven in rare instances as a cause of hypoglycemia: tumor of the liver, tumor of the adrenals, abnormal function of the pituitary and the thyroid are some of the causes reported. But no doubt the great majority are due to pancreatic over function. In as much as a diagnosis of Epilepsy carries a stigma, any other solution of convulsions is to be welcomed, especially as treatment is often successful.

DIVERTICULITIS: Another condition not very common but seen often enough to warrant some reference because so easily overlooked is diverticulitis,

and I refer not to the acute involvement of such diverticula as Meckel's of the small intestine which so often simulates acute appendicitis, but a more chronic or recurrent inflammation of diverticula of the large intestine—especially the descending colon and the sigmoid. Their frequency is in much doubt. Rankin and Brown of the Mayo Clinic think diverticula occur in one percent of people and that infection, diverticulitis, occurs in one in 600. The diverticula may be single but are commonly multiple and said to be usually arranged in two rows at either side of the attachment of the meso-colon. They are rather rare in the young, much more common in the middle aged or elderly persons, but I have seen a typical case with left abdominal tenderness, diarrhea, fever and the passage of blood in a young man of thirty. Constipation is believed to favor the pouching of the gut at certain weak places—such as at the point of entrance of vessels. The mere presence of diverticula goes unnoticed unless some infection takes place. In such event there is pain, and tenderness especially in the left lower abdomen and suprapubic area. Such attacks are subacute or rather acute. There is fever, leucocytosis, diarrhea or constipation—a group of symptoms and physical findings that in many ways simulates appendicitis. The most dependable feature is that the pain and tenderness and possibly a mass are found more on the left side. Differential diagnosis concerns mostly appendicitis and sigmoid carcinoma—which latter may be symptomless until infection or obstruction (usually partial) ensues. W. J. Mayo reports several cases of sigmoidectomy for supposed carcinoma—which subsequently on careful re-examination of the specimens, proved to be diverticulitis. In one group of 227 cases of diverticulitis studied at the Mayo Clinic only four had carcinoma. Modern radiologic methods can usually differentiate the two conditions. From ordinary colonic infections with diarrhea the diagnosis is not usually difficult. In the female, pelvic pathology may have to be excluded, and this may not be so easy. The diagnosis is scarcely final without x-ray study which may have to be delayed in case there is much tenderness and fever. There may be perforation, with abscess formation, in which case surgery is indicated; but most cases are mild, both in pathology and symptoms and recover promptly under non-surgical treatment. The diagnosis of diverticulitis during the life of the patient is a relatively recent event. W. J. Mayo states that the five cases reported by himself and others in 1907 were the first in which the pathologic changes were studied on the living subject: in each of these there was surgery for "Obstructive Diverticulitis." I repeat then that acute or subacute attacks of pain and tenderness in the left lower abdomen, with fever, with or without diarrhea, should make us think at once of diverticulitis. Conservative treatment is best, but if surgery becomes necessary it requires the very best surgery. A word on the treatment of this con-

HENRY G. RUDNER, M.D.

Clinic—Internal Medicine

1198 Madison Avenue

Memphis, Tenn.

dition: Rest in bed, saline or oil enemas and mineral oil by mouth constitute the main items of treatment. After the attack is over the patient should live on a roughness-free diet—and take mineral oil.

Whenever possible the diagnosis should be confirmed by x-ray study. The x-ray technicians have demonstrated that during the acute inflammatory stage the edema is such that the diverticula do not show up as well as later when the swelling has subsided. One of the main things in these cases is not to make a diagnosis of carcinoma of the sigmoid and rush into an operation. Let the acute stage subside and then x-ray study usually leaves no doubt of the diagnosis of an essentially benign trouble.

The third group of symptoms and physical signs that are slow to sink in on the profession and yet mean so much are the nerve—especially the spinal cord features—of Primary Anemia. If the sufferer from pernicious anemia comes with his more usual complaints, weakness, and dyspnea, or with sore mouth and diarrhea, or if he comes because some one has told him he was a bit jaundiced—we can usually make the diagnosis by looking at him—but if he comes because he has had difficulty in walking, or because of troublesome paresthesiae in his hands or feet it is not difficult to overlook the fact that here is an early primary anemia—exhibiting, as so often happens, the neurological features before there has been any profound alteration in the blood. These neurological manifestations have been known for many years—but for a long while they were regarded as rather late manifestations of the disease. It was only in relatively recent years that their early appearance was generally recognized. In a group of patients reported by Woltman in 1919—one in eight consulted a physician because of his neurological symptoms. As to the symptoms themselves they are as varied as the anatomy of the spinal cord, and at autopsy all parts of the cord have been found involved. Most changes are in the posterior or lateral columns and either may predominate. In the one case symptoms similar to those of tabes—even lightning pains and girdle sensations, with loss of jerks and ataxia—in the other the upper neuron symptoms predominate with spastic gait and exaggerated reflexes. More often the symptoms are those of combined degeneration of moderate degree—possibly only numbness and tingling. Diffuse myelitis has been recorded and degeneration of nerves themselves with proper symptoms are reported. Disturbance of sense of heat and cold is found; actual pain is rare. But a detailed account of spinal cord symptoms is not intended. My object is to call attention to the fact that in elderly persons the numbness and tingling, with or without real gait difficulties, are often the symptoms that bring the patient to the doctor and the hunch of Pernicious Anemia must jump into his mind. And the patient mentions these symptoms because they worry him most—he may also have loss of color, some weakness, and gastro-intestinal symptoms but they have failed to impress him. On the other hand the nerve features may be the only ones and the blood picture may be inconclusive. In case of doubt absence of free HC1 would encourage the Doctor to try the liver treatment. And let me impress that the liver or ventriculin should be pushed and kept up after the blood has become normal. It requires liberal treatment to help the cord symptoms

and even then marked relief is rather rare. Improvement of the spinal cord symptoms on such treatment would go far to convince one of the correctness of his hunch. Occasionally—as in one of mine—mental features predominate.

CASE REPORT: Mrs. M., 63, consulted me in May, 1932, her chief complaint being difficulty in walking and a sense of stiffness in her hand and feet. The sense of stiffness was entirely subjective. There was upon inquiry some sense of numbness and tingling. The gait was neither ataxic nor spastic. There were no other significant symptoms. The hemoglobin was 72%. Index just above one. A good number of large cells and an absence of free HC1 seemed to me to establish the diagnosis of Pernicious Anemia. The spinal fluid and blood Wassermann were negative. This patient improved satisfactorily as to her blood but the neurological symptoms did not fare quite so well. I have seen her recently and her condition is satisfactory.

In December '34 a man of 73 gave as his chief symptom a "collection of mucus" on his hard palate. Other symptoms were acknowledged but this was what had troubled him for several months and for this he had had a nasal operation and much dental work—to no effect. There were paresthesiae of hands and feet but not pronounced. The blood was typical of Primary Anemia and his improvement has been satisfactory. There was nothing seen on the palate.

Some writers report changes in nerve trunks and I take it this was the cause of his mouth sensation. Probably much of the numbness and tingling is of nerve instead of spinal cord origin. The fact that the treatment of Pernicious Anemia has become so satisfactory should make all doctors—wherever located and doing whatever type of practice—alert to the detection of this disease. It still holds good that a diagnosis can often be made by merely looking at the patient. And, remember, it is by no means a rare disease.

SUBARACHNOID HEMORRHAGE. The last condition to which I wish to refer is spontaneous subarachnoid or subdural hemorrhage, the hemorrhage arising in the membranes—not in the substance of the brain. It is only in the most recent systems and text books of medicine that we find even a reference to this not uncommon accident though it was well described by Wilke in 1859. I have seen five or six instances of this condition in private work and there seems no good reason for the failure in the past to observe and study it more carefully. The first seen was some 25 years ago. The man was siezed suddenly while standing in his barn-yard and when I saw him had all the physical signs of a meningitis. Meningococcus meningitis was prevalent at this time and I suspected a fulminant type of that disease. I punctured the spine and got bloody fluid, and containing no pus cells or organisms. A search of my books gave no description of such a condition. The man recovered. Since then I have seen four or five

EUGENE ROSAMOND

Pediatric Diagnosis

Rosamond Clinic for Children

Madison Avenue at Somerville

Memphis, Tenn.

similar cases—all coming on suddenly, two of them unconscious when first seen by a physician and the others not entirely so. One died, the others recovered, but one later died of apoplexy thought to be a ventricular hemorrhage. The subjects of this accident are usually, but not always, hypertensive and a degree of arterial change may be assumed and is proven at autopsy. Syphilis or other pathology is present at times but the great majority are not luetic. Accident or special physical strain was not present in any of the cases I have seen and neither is usually a factor. Two of my patients were in the yard, the other three in their bedroom and in two the attack came on in the early morning hours.

Headache, usually intense, is the initial symptom in most cases in which a history can be gotten in detail. Pain in the back is also common. Unconsciousness often exists when the patient is first seen and with this there is rigidity of the neck and probably a Kernig. The jerks, abdominal, knee and plantar very much—as do the pupils and the eyegrounds. The unconsciousness may develop slowly, or may not ensue at all.

Subarachnoid—or structural hemorrhage—should be suspected in any case of sudden, unexplained or unusual headache, particularly if there is stiffness of the neck or symptoms suggesting irritation of the spinal membranes. The presence of a leucocytosis or a rise of temperature need not raise much doubt. A positive diagnosis can only be made by spinal puncture and this should at first be done, except in unusual circumstances, for diagnosis only. The fluid is usually definitely bloody, not a blood stained fluid such as one gets by traumatizing a vessel with the needle. It is said that while the latter clots on standing, the blood of subarachnoid hemorrhage will not clot. In preparing this paper I was interested in an article by Dowling in the American Journal of the Medical Sciences for April, 1933. Dowling reports twelve cases. Of these twelve only five would have appealed to me as being instances of spontaneous subdural hemorrhage, although I have been on the alert for it for about nine years. This suggests that there may be quite a number of more or less obscure comatose or semi-comatose states due to this type of hemorrhage and that cautious withdrawal of the bloody fluid would aid recovery.

Incidentally spinal puncture is not a highly technical procedure and there is no commanding reason for not doing it in the home.

And, in conclusion, I beg your pardon for even intimating any of you might overlook a case of diverticulitis, Pernicious Anemia or spontaneous hemorrhage within the coverings of the brain. On the other hand if I have lowered my own or your threshold of Diagnostic Hunch I am gratified.

Academy of Medicine, Mch. 27, 1935.

West Tennessee Med. Assn., May 16, 1935.

Block Patch, Springfield, July 16, 1935.

DR. E. M. HOLDER

General Surgery and Gynecology
Suite 302 Physicians and Surgeons Building
Baptist Hospital Annex - 899 Madison Avenue
Telephones: Office 6-2184; Res. 8-1640
Memphis, Tenn.

Mid-South Post Graduate Medical Assembly

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Dr. Norman F. Miller, Ann Arbor, Mich., Obstetrics.

Dr. J. R. McCord, Atlanta, Ga., Obstetrics.

Doctors Get Permanent Licenses

A Permanent License to Practice Medicine in Mississippi was issued by the State Board of Health to each of the following physicians, June 27, 1935:

Dr. Aubrey A. Aden, Valley Park; Dr. Austin H. Applewhite, Columbia; Dr. Allie M. Arrington, Decatur; Dr. Woodard D. Beacham, Hattiesburg; Dr. James G. Blaine, Jackson; Dr. Eldon L. Bolton, Biloxi;

Dr. LeRoy B. Brackstone, Iuka; Dr. Francis F. Burton (Col.), Meridian; Dr. George A. Carmichael, (Col.), Canton; Dr. Joseph Ciolino, Greenville; Dr. Ottis B. Crocker, Sarepta; Dr. Hugh K. Curry, Eupora; Dr. Sebron C. Dale, Prentiss; Dr. William C. Golden, Walnut Grove; Dr. Paul R. Googe, Booneville; Dr. Everett G. Grantham, West Point; Dr. Wallace A. Hull, DeKalb; Dr. Robert L. Johnson, Tupelo; Dr. John M. Kellum, Houston; Dr. William H. Lacey, Holly Springs; Dr. Lee M. Lipscomb, Jackson; Dr. Volney R. Liddell, Vicksburg.

Dr. John C. McGuire, Hazlehurst; Dr. Thomas W. Meriwether, Senatobia; Dr. Onnie P. Myers, Collinsville; Dr. Thomas C. Naugle, West Point; Dr. Joseph G. Peeler, Clinton; Dr. James J. Pittman, Tylertown; Dr. Lightfoot West (Col.), Memphis, Tenn.; Dr. Wayne C. Pittman, Sweatman; Dr. Clarence D. Pritchard, Oxford; Dr. Emmett Ray, Kosciusko; Dr. Owen Royce, Jr., Greenville; Dr. Gus A. Rush, Meridian; Dr. Fred M. Sandifer, Jr., Greenwood; Dr. Earle S. Seale, Meridian; Dr. Cecil C. Smith, Indianola; Dr. Robert E. Stegall, Gulfport; Dr. Cecil R. Walley, Jackson; Dr. Albert G. Ward, Jackson; Dr. Wm. J. Weatherford, Pascagoula; Dr. Frank A. Wood, Lena; Dr. Samuel B. Word, Aberdeen.

Case Report of Madelung's Deformity

J. T. DAVIS, M.D.
Corinth, Miss.

I wish to present a case of Madelung's deformity of the wrist, which I thought was particularly interesting not only because of the infrequency of the condition, but because of the confusion that it may cause in the differential diagnosis, if one has never had the privilege of seeing and examining a recognized case. It may easily be confused with the more common conditions as acute arthritis, periostitis, inflammatory conditions of the bone and even traumatic dislocations.

This condition known as Madelung's deformity was present in a white girl, age 16, who came to the clinic complaining of pain in her left wrist on motion, especially dorso-flexion. Eighteen months previously a cow kicked her on the distal one-third of the left forearm. Following this an abscess formed on the dorsal portion of the distal one-third of the forearm over the ulnar bone. "This was lanced," the patient says, "down to the bone." The abscess soon cleared up but there remained pain in her wrist with pressure as well as with manipulation, and especially with dorso-flexion. The wrist appeared swollen, the styloid process of the ulnar prominent on the dorsal side and the base of the hand somewhat prominent on the anterior aspect at the radial articulation. There was no crepitation.

Several conditions were considered, namely; gonorrheal arthritis, due to the presence of a purulent vaginal discharge, second, an inflammatory condition, third, a traumatic condition of the bone, due to the history of the case, and fourth, luetic periostitis.

An x-ray was taken of the left wrist at this time which showed no signs of an inflammatory condition in the bone or periosteum but an anatomical defect of the epiphysis of the distal end of the radius, the medial portion of the epiphysis being absent, and a lateral bowing of the distal one-third of the shaft.

The Wassermann was negative.

On the patient's second visit it was noted that the same type of deformity existed in the other wrist but not so marked. About two months later the patient had begun to complain of some pain in this wrist also. Following a careful survey of the findings in this case and ruling out the more common conditions that might simulate it, it was concluded that the weight of evidence was in favor of Madelung's deformity.

Madelung's deformity is comparatively speaking rather a rare condition, although probably not so rare as one might be led to believe, judging from the few cases reported in the literature. This is likely due either to the fact that the condition is not recognized as such or that they have not been reported. From a recent review of the literature I have been able to find less than one hundred cases reported—of which only six have come from American authors. The first case was reported in this country by Stetten in 1901 and the last two by Levyn of Buffalo, New York, in 1923.

This so-called spontaneous subluxation of the

hand was first vividly and accurately studied by Madelung, a German surgeon. In 1878, before the seventh Congress of German Surgeons he presented a study of a series of twelve cases and a post mortem study of one. Up to this time little had been written concerning this abnormality. Begin made slight reference to such a deformity in 1825, although Madelung gave Dupuytren credit for the first description in an article in 1834. Following this were cases reported by Smith in 1847, Malgaigne in 1855, Weber, 1859, and Busch in 1864. Jean in 1875 was first to describe an anatomical dissection in a woman 73 years of age, having had the deformity since childhood—a forward displacement of the wrist, lower end of radius bowed forward and the lower end of the ulnar dislocated posteriorly.

Translation taken from Madelung's paper of 1878 describes the deformity in great details as one of spontaneous nature, slow but progressive. "There is a subluxation of the hand forward, the wrist seems to be almost double in diameter, the styloid process of the ulnar is prominent on the dorsal side and the articular surface of the radius may be palpated with the hand in dorso-flexion. The tendons bridge over the deep depression on the palmar surface of the wrist which otherwise would be quite prominent." It presents a picture very similar to the typical silver-fork deformity that is so commonly seen in Colle's fracture, but has just the opposite displacement. During the progressive state and when the condition is at its height all movements of the wrist may be painful especially with dorso-flexion which is greatly hindered depending upon the degree of deformity. There may be ulnar or radial deviation depending upon the individual case, being quite variable or none at all. It is possible to force back the ulnar into normal position, but the deformity immediately returns upon release of pressure, while on the other hand one can in no way reduce the radius.

There is a marked bowing of the radius, in the well developed cases, which is outward and in the majority of cases confined to the lower one-third of the bone, although the greatest bowing exists at the epiphysis line. So that the bowing is chiefly of the epiphysis itself. From this, one would naturally infer that the radial deformity was likely due to an abnormality in bone growth.

An anatomical dissection performed by Madelung indicates very clearly that the deformity is chiefly one confined to the epiphysis and articular surfaces of the radius. He found that the carpus articulating with the radius was displaced forward approximately one half inch toward the volar surface and also upward one half inch, presenting an absence of the anterior one half of the epiphysis of the radius, while the posterior one half showed an abnormal growth which projected over the dorsum of the wrist and over the posterior aspect of the articulating car-

ROSS E. ANDERSON, A.B., M.D.
Standard Life Bldg. (Suite 515)
Jackson, Miss.
Bronchoscopy
EYE, EAR, NOSE AND THROAT
Ionization for Hay Fever

pus. The articular surfaces of both ulnar and radius were irregularly developed and would not hold the carpal bones in place on the volar surface. The cartilage between the carpal bones and the epiphysis of the radius and ulnar were irregular, ossified in places and lacking in other places. In fact, the whole volar surface of the wrist presented a picture of dystrophy, while on the dorsal side there was evidence of bone hypertrophy.

In the twelve cases presented by Madelung in 1878, he found nine cases unilateral, four on the right and five on the left—two cases were bilateral and one case was not recorded. The female predominated eight to four.

It develops most usually, however, in the young working girl, never before 13 years of age and rarely after 23. The usual complaint is pain on motion and limitation of dorso-flexion. The deformity usually reaches its height in from one to two years. During this time the patient complains of pain with manipulation but after this the pain disappears although the deformity remains. Although the deformity may be marked there is usually very little incapacity on the part of the patient to use the hands after the painful stage.

As to the cause of such a deformity little is known. There is rarely a definite history of trauma and there are no findings that would relate it to an inflammatory condition. Dupuytren and Weber thought it due to contraction of the flexor muscles but basis for this is lacking. Busch went so far as to cut the flexor corpi and palmaris longus for correction but without results. Malgaigne believed it due to simple relaxation of tendons and ligaments without cause as could be evaluated but this was not a satisfactory explanation.

Madelung classifies the deformity as one due to a disturbance in growth of joints primarily and depending on alterations of the articular surfaces by mechanical factors which produce changes in bone growth. It is a condition of bone growth disturbances as that described by R. Volkman and analogous to pes valgus, genu valgus and scoliosis in each case the mechanical influence being quite important. The main factor as described by Madelung in this type of deformity is the continuous over exertion of the flexor muscles, which are developed to a powerful degree because of the most common use in every day work of flexion and hyperflexion of the hand and wrist. This produces a stretching and subluxation of the tendons and ligaments on the dorsal side and thus a tendency to volar bowing. As one may readily see with such a mechanical alteration increased pressure would be thrown upon the anterior edge of the distal radial epiphysis by the articulating carpus, causing atrophy or retardation of growth. While decreased pressure on the posterior edge would allow abnormal growth or hypertrophy. However, when we consider the fact that this deformity is limited to a small number of individuals, although Madelung found a similar deformity of slight degree in considerable number of his patients, but without symptoms and without subsequent progression, and due to the fact that it is less prevalent among men who do very hard manual labor continuously than among women doing lighter work, one

is forced to look further for some primary bone pathology and not consider subluxation or strain as the essential causative factor.

Malfusion thought possibly it was related to rickets and Feve brought up the theory of a hereditary tendency to subluxed tendons and secondary development of the deformity. Madelung believed it to be a primary weakness of the bone or a disturbance of nutrition, the mechanical factors being secondary. Redard advanced practically the same theory in 1892; prolonged strain on the wrist induces a hyperactivity of cartilage which results in the production of bone hypertrophy and subsequent subluxation and deformity. Although no definite etiological factor has been determined as yet, these factors one has to take into account especially in cases in which the deformity is bilateral and where is it associated with such other deformities as flat feet.

In regard to treatment there is very little to offer. Various orthopedic appliances have been used in an attempt to maintain reduction of the deformity but without very good results, because of the anatomical defect in the articular surfaces of the bones. The most rational treatment it seems would be to replace the bones of the wrist joint, putting pressure on the bone of over growth and relieving the pressure on those not growing, so that the hand would be put up and maintained in dorso-flexion. This proved impractical in this case because of the unwillingness of the patient to subject herself to such a prolonged period of this type of treatment. This was probably due to the fact that the pain which was the chief incapacitating factor to the patient, spontaneously disappeared after the deformity but with very little incapacity except for fatigue with exertion and limitation of dorso-flexion. Thus the patient did not return for further treatment and observation.

Some have used a small leather sheath which encircles the wrist and base of the thumb allowing necessary but not too great motion of the wrist. This has given some relief and support to the wrist especially during the acute stage.

Probably the best treatment is an attempt to strengthen all parts of the forearm by special exercise, instituted in the early stages of the deformity.

As for the lateral bowing of the radius, which may develop to a marked degree, it has been suggested that a small wedge shaped portion of bone be removed from the cortex of the lateral border of the radius at the point of greatest agulation. This would tend to throw the axis of the radius back in line with the ulnar and perpendicular to the greatest stress and strain of the powerful flexor muscles of the forearm. This operative procedure however should not be attempted in cases that it necessitates injuring the epiphysis or at such a time as will in any

WALTER A. RUCH, M.D.

Practice Limited to Obstetrics

Suite 202 Physicians and Surgeons Bldg.

899 Madison

Memphis, Tenn.

way disturb bone growth.

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The Modern Conception of Arthritis and Treatment of It

RALPH PEMBERTON, M.D.
Philadelphia, Pa.

THE PRESENT STATUS OF ARTHRITIS

Having completed the foregoing outline of what has been undertaken and accomplished in the way of executive and administrative developments, it may be well to turn briefly to the field of arthritis itself with the aim of visualizing the general trend which investigative work and clinical experience have given to it. It may be said that prior to thirty years ago very little specific information was available as to the nature of arthritis, although a good many broad gauge concepts were nevertheless entertained. The generation of our forefathers appreciated more acutely than have subsequent generations, and especially the last one, the influence of such important factors as climate, exposure, heredity (which they called arthritic diathesis) the influence of food and the like. It was indeed, largely a relation to such factors as the above that the great and justifiable vogue of spas and Kurorts, especially in Europe, grew up. With advent of the new and important conception of focal infection, for which American subsidiary factors above enumerated, at once seemed of less or no importance and interest centered almost exclusively upon the "infectious" point of view. Balanced viewpoints are usually achieved slowly and irregularly, not less in medicine than in society at large, and the pendulum of opinion so far as focal infection is concerned, swung to wide extremes. This extremity carried with it some sharp advances in our conception of the etiology of disease at large and also as to therapy based upon it. It brought about equally, however, earlier realization than would otherwise have arisen, of the limitations inherent in this as in all broad and new conceptions in their formative stages.

The solution of many diseases, especially arthritis, by the removal of infection appeared at one time a simple but logical conception; bitter experience, however, has finally led to the view that the true solution of arthritis is further to seek. In the meantime the long suffering public underwent many needless operative procedures and was often plunged from bad into worse. An almost equal misfortune, however, which characterized this period, was a nearly complete neglect of a host of associated and important factors, having to do with the underlying pathology of the disease. There is no question whatever that valuable time was lost and countless hosts of arthritics were doomed to suffer unnecessarily because of indif-

ference to considerations which, in terms of human physiology, bear not only upon arthritis but many other conditions as well. The statement can now fortunately be made that something approaching a "physiological" outlook upon arthritis has been ushered in, in which the disease is seen to be a deviation of several lines of "physiology," as much as, or even more than, the specific result of any single stimulus.

It is not the purpose of the present article to review the large amount of clinical and investigative work now being carried on in connection with arthritis (loc cit). It will be sufficient for our present purposes to state that the advanced plane upon which the arthritic syndrome is now visualized depends upon appreciation of the large variety of factors and influences bearing upon it. It is, indeed, this considerable series of links in the chain which gave relevance to the Outline of Factors referred to in the first part of the text. The statement can be made with confidence that consideration of all the data now available necessitates the point of view that arthritis is a syndrome in which the way is usually paved, long before its advent, by inherited influences not only of imponderable nature but also of a more tangible kind as well. These last are, in fact, reflected in the bodily configuration of the individual as a whole and in the anatomical positions and relations of the thoracic and abdominal viscera. Indeed, one may go further than this and say that the arthritic syndrome can be regarded as an expression of imbalance of at least several of the great systems of the body, meaning by this the nervous, the vascular and the gastrointestinal. No definition of the disease could stop here, of course, and it is sure that other features are also to be considered; some of them suspected, some of them unknown.

In order to attach some finality to the general statement just made the reader who may have not given much thought to this field should be frankly advised that the syndrome of arthritis is demonstrably accompanied by a state resembling vaso constriction in the capillary beds at the periphery; overaction of the sympathetic nervous system; bizarre configurations and dysfunctions of the gastrointestinal tract; and, certain disturbances of the blood chemistry, including the blood gas equilibrium. These factors are now widely recognized and there is no opportunity here for further comment upon them.

The view of the problem outlined is the only one which makes possible explanation of the several precipitating factors that may undoubtedly usher in the disease. Conspicuous among these factors is the question of focal infection already referred to. Even the layman, however, has now learned that focal infection does not necessarily cause arthritis and the world is certainly amply peopled with apparently healthy persons harboring focal infection in insidious and even more massive forms. Upon prepared soil,

DR. Wm. F. HAND

Gynecology and General Surgery

519-21 Standard Life Bldg.

Jackson, Miss.

however, infection may become operative, as may exposure, fatigue, nervous strain and nutritive imbalance. The influence of any or all of these factors upon the prepared candidate may suffice to usher him into the melancholy brotherhood of cripples.

Infection can now be seen in something approaching its proper relationship. Certainly nothing is more clear in the syndrome under discussion than that infection may and often does play an important and dominating role. The many experiences of recovery among early cases after the removal of infection can leave no doubt upon this score. For many years the point of view held sway, especially among those approaching the problem from the exclusively bacteriological angle, that there must be some specific bacteriological factor productive of it. Much stimulating research in this field has served, at least analysis, to widen our conception of the possibilities and limitations inherent in this point of view. After many years of investigation, however, there is no consensus opinion as to the exclusively bacteriological origin of the disease, and, least of all, as to any specific causative organism. Rather, on the other hand, has recent bacteriological research pointed to certain broad immunological relations on the basis of which phenomena previously regarded as specific must now be regarded as functions of age, chronicity of the disease and the influence of certain simple chemical radicals common to many forms of life. The evidence is thus strong that the role played by infection in arthritis is not comparable to the depredations of the tubercle bacillus but depends upon indirect influences, possibly partly allergic in nature. It is even conceivable, in the light of some recent investigations, that bacteria, when indeed present, may serve as passing irritants to joints and other structures in arthritis rather than as residents in the tissues themselves.

Without attempting to enter further into the vexed pathology of this great syndrome the reader will probably appreciate at this point that the etiological and pathological factors underlying the disease are many. This conception is of the utmost importance because it underlies all adequate therapeutic approach to the disease. In proportion as the profession realizes the varied nature of arthritis, so will it cease to look for a single curative measure of therapy or panacea of any kind. Indeed, no panacea is needed in arthritis because the results of therapy based upon the general premises above outlined are so highly gratifying as to constitute the definite turning of a therapeutic page in the treatment of this disease. Not only is it possible to achieve these results in sick arthritics; it is equally, and should be more easily, possible to prevent the disease in predisposed individuals. The opportunity to practice this doctrine successfully has many times occurred to the writer among large families in which the disease is to be found.

In nearly all of the larger chapters of medicine relating to disease within the major systems of the body such as the vascular, respiratory, etc., consideration of the individual as a whole rather than only of the parts affected has usually early dominated the field. This has not been so in arthritis, however. Attention has been focussed upon the joints and the in-

dividual possessing them has been largely ignored. An almost complete reversal of policy is now in order and must be entered upon. It may be said in all candor that arthritis is not a disease of joints but a systemic one in which the joints are caught up more or less incidentally. Many an arthritic goes through life with not arthritis but great discomfort in the form of myositis, headache, iridocyclitis, neuralgia and neurasthenia. The great concept, therefore which the activities of many workers has now made possible is that which treats arthritis as a systemic disease, "splints" the individual, so to speak, by complete rest and establishes equilibrium in the major systems of the body, especially the nervous, vascular and gastrointestinal. Appreciation of the pathological deviation actually taking place in the structures involved, permits application of the vastly reconstructive forces of physical therapy, including "postural exercise"; and without the adjuvant use of physical therapy, chiefly heat and massage, few advanced arthritics can hope to recover.

The reader who may have studied the arthritic field should realize that these measures are not aimed at "crooked or stiffened joints but go far deeper into the heart of the problem and deal with the grundlage of dysfunctions from which much, possibly all, of the disease springs. The interval operation is a commonplace in surgery; the patient with active tuberculosis is not subjected to sinus operation; the maltreated arthritic, however, has been made to violate nearly all basic principles of physiology. A new era is being ushered in; in it the arthritic will be intelligently prepared for such vigorous or exacting therapy as may be indicated. Under this head come especially the surgery of focal infection and the use of vaccines. Too many arthritics have had their struggling immunological defenses unnecessarily and untimely crushed by the further burden of operative and vaccine therapy. The place of vaccines in medicine can not be gainsaid but the place of vaccines in arthritis is certainly much more circumscribed than has been currently thought to be the case. Relatively few arthritics treated along the broad lines suggested above will need vaccines; indeed, vaccines may be expected to have more significant results and a much more secure place in the therapy of arthritis when they are reserved for such cases as have been found to need them and have been prepared to profit by them. Analogy may be drawn between the present popular outlook on vaccines and the early days of enthusiasm over so-called focal infection. Any statement then made suggesting value in other procedures was regarded as iconoclastic and subversive of sound doctrine. *Tempora mutantur et nos in illis.*

A word must be said as to nutritional therapy in this syndrome. The writer has long stressed the importance of curtailment of the dietary in many cases of arthritis. The interesting work of Fletcher has

SAMUEL BROOKS CARUTHERS, M.D.

Grenada Clinic, Grenada, Miss.

Practice limited to

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added further relevance to these considerations, in the restoration toward normal, of the bizarre configurations of the gastrointestinal tract, which follows dietary control of arthritis. The writer and his associates have amply confirmed these conclusions. It can be said that all arthritics are better for the establishment of a balanced and often a slightly curtailed, though adequate, dietary. In a considerable number of cases the application of this principle is needed in intensive measure, and it is probable at last analysis that no other considerations have a closer relation to the heart of the problem.

Looking back then upon what may be regarded as the earliest serious attempts to approach this disease some twenty-five years ago, and contrasting with them the present relatively enlightened outlook upon the problem, as well as the extensive interest now displayed in it, much satisfaction is to be experienced. There is no longer justification for therapeutic skepticism among that decreasing band of observers on the fringe of the problem, who have not been at pains to inform themselves regarding it. Those who cannot or will not study the problem and are not open-minded, will not reap for their patients the rewards available. Neither pessimism nor singleminded zeal points the way out. The physiological problem is difficult of being grasped and busy practitioners, not unnaturally, turn to a bottle or a syringe as the medium of escape. Hereditary influences, structural inadequacies, faulty anatomy and physiological dysfunction of the viscera cannot be undone so easily. Modified or corrected they can be, however, by appropriate procedures and therapy based on such premises should be successful in at least seventy per cent of all cases in any critically administered clinic.

In few of the other great chapters of medicine is cooperation by men trained in various fields so essential. There will be small escape from this, at least for a long time to come. It will be obvious to the reader that successful handling of the problem of arthritis as a whole will thus require in the future larger provision for sufferers from the disease than at present exists. This situation is precisely that which confronted the pioneers in the field of tuberculosis and, subsequently, those who launched the movement for the prevention of heart disease. In many directions appreciation of the importance of arthritis arose earlier in Europe than in this country and there is now to be witnessed in Sweden the interesting spectacle of five state hospitals for the exclusive care of chronic arthritics. Without entering upon dry statistics, suffice it to say that in that country the most important cause of disability, disregarding old age, is afforded by chronic articular rheumatism. The task and the opportunity before the profession and the laity at large, are therefore clearly indicated. It remains, however, to arouse that corporate sense of responsibility on the part of the public which is slow to move but, once aroused, usually moves forward in measured and telling stride.

Homer pictures vividly the outraged god Apollo made to descend from the heights of Olympus; similarly, must outraged society descend from the heights of complacency, "bearing its bow on its shoulders and the all-embracing quiver, angry at heart."

There are some members of the American Com-

mittee for the Control of Rheumatism who are persuaded that society will achieve escape from this burden in almost direct ratio to the emphasis which it places upon it.

In President Lincoln's first inaugural address occurs the following sentence: "In your hands, my dissatisfied fellow countrymen, not in mine, lies the momentous issue of Civil War." The growing number of persons now familiar with the principles outlined in this brief article, who feel with conviction that arthritis is in the main a preventable and arrestable disease, may well borrow this sounding phraseology and paraphrase it for those less interested and skeptical confreres who may yet remain to be reached. "In your hands, dissatisfied fellow practitioners, not in ours, now lies the momentous burden of chronic arthritis."

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Gastro-Intestinal Allergy*

JOHN P. HENRY, M.D., F.A.C.P.
Memphis, Tenn.

Any portion of the gastro-intestinal tract, from lips to rectum, may be the seat of allergic reactions and when these reactions occur in the abdomen the symptoms resulting therefrom may mimic almost any abdominal syndrome. For instance, patients have been explored for an intestinal obstruction but only edema of the gastro-intestinal tract was found (intestinal urticaria). The same has happened when all symptoms and preoperative findings pointed to an acute appendix. Symptoms characteristic of peptic ulcer with negative x-ray findings may be due to allergy or, when ulcer is present, symptoms may not be relieved due to a sensitization to some food in the ulcer diet. For this reason it is impossible to discuss more than one phase of the subject in the time allotted. Therefore, I have chosen a type of so-called indigestion or dyspepsia which is characterized by symptoms resulting from pathology or disturbed physiology in and about the liver.

We are aware of the fact that foods, after absorption, may pass through the liver and cause symp-

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MRS. S. A. CARNS
Rt. 1 Biloxi

HOME OF JUGTOWN POTTERY AND
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toms in other organs, such as the nose, sinuses, skin and bronchial tubes. Very often, however, an allergic reaction takes place in the liver as the result of a sensitization of the cells in this organ.

As an example, let us consider an individual whose liver cells are mildly sensitive to a food such as milk. After abstaining from this food for a given length of time, ingestion of a small quantity may not produce any noticeable discomfort or symptoms. If the ingestion of milk is continued, the following symptoms usually appear: loss of appetite, coated tongue, constipation, and perhaps nausea and vomiting with or without pain. Later on there may be ulcers in the mouth and clay-colored stools due to an absence of bile. Occasionally mild jaundice may be present.

Although little or no opportunity is afforded to study allergic changes in the digestive organs of the human, the absence or diminution of bile strongly suggests edema of the liver cells comparable to that seen in allergic reactions occurring elsewhere in the body.

Not all foods affect the liver in the manner just described. Also, it was stated that symptoms are due to disturbances both in and about the liver, meaning the stomach and, more particularly, the pylorus. These facts are pertinent since we are called upon almost daily to differentiate between true gallbladder disease and allergic reactions arising within the liver or upper portion of the gastro-intestinal tract, both of which may exhibit the same symptoms. Unfortunately, when stones are present their demonstration by means of the roentgen ray is not always possible and in the absence of such a picture we truly have a problem. The dictum "fair, fat and forty," accompanied by belching, no longer means gall-bladder disease absolutely but may just as well indicate an allergic condition affecting the gastro-intestinal tract.

Many who have true cholecystitis give a history of qualitative food dyspepsia for one or more of the following:

- cabbage
- brussels sprouts
- onion
- cucumber
- bell peppers
- radish
- raw apple

Likewise allergic individuals with sensitive liver cells may complain of indigestion, characterized by a sense of fullness or bloating and belching, because of a sensitization to one or more of these same foods. For a number of years it has been a theory of mine that the above foods are not easily handled by a liver that is the least bit deranged. Accompanying cholecystitis there is usually an associated hepatitis and pancreatitis. Therefore it seems logical to assume that in one case the liver may be affected by a diseased gallbladder lying in close proximity, while in the other symptoms are due to an allergic process. Patients in the latter class have submitted to cholecystectomy and examination of the gallbladder afterward has failed to reveal pathologic changes. Furthermore, symptoms continued until investigated from an allergic standpoint.

Adrenalin may be used as a therapeutic test in attacks involving the gastro-intestinal tract. In some cases it gives almost immediate relief but in my ex-

perience it has not been as helpful as in reactions involving other parts of the body.

Allergic headache may seem foreign to this subject, yet it is possible that the liver is involved in some cases with headache resulting from toxemia. We know that pylorospasm often accompanies liver upsets as well as headache. All of us who have observed the stomach during fluoroscopic examination are familiar with the fact that the presence of headache often causes retention of barium many hours past the normal emptying time. By reflex stimulation disturbances in the liver or gallbladder may do the same. I have seen patients, upon awakening with headache, vomit liquids retained from the previous afternoon or evening. However, pylorospasm may occur in non-allergic individuals whose headaches are due to the withdrawal of food, particularly a stimulant such as coffee. Regardless of the above, this knowledge is of aid in treatment because patients who fail to respond to aspirin alone may obtain relief by lying down, preferably in a darkened room, and taking a small dose of phospho-soda or other saline laxative. When headache is present, peristalsis may be practically at a standstill but within thirty minutes after the laxative, peristalsis begins and headache disappears. In favorable cases relief seems to be due to relaxation of the pylorus and removal of stasis in the upper portion of the gastro-intestinal tract which produces greater toxemia than stasis in the lower portion.

Allergic reactions in the liver may also result from various drugs and cause, by reflex action, gastro-intestinal upsets. Mann (1) states that "the liver is the site of destruction of almost all strychnine that gains access to the body and that it will destroy more nicotine than all the other tissues of the body." I have encountered patients complaining of indigestion and upon fluoroscopic examination pylorospasm and spasticity were observed. Relief was not obtained until the use of tobacco was abandoned.

At certain seasons of the year I have had patients complain of symptoms referable to the liver from certain products in milk, such as "bitter weed" which cows eat while feeding in pastures or "at large."

The treatment of gastro-intestinal allergy, regardless of the symptoms or location involved, naturally resolves itself into the removal of offending substances, whether a food or drug. It is assumed of course that other pathology, if co-existent, should receive proper attention.

In my opinion, the best method to prepare a trial diet is to combine skin tests, a complete history and our knowledge concerning foods in general—33 1-3 per cent of each. For example, we know that wheat, egg and milk are frequent offenders but in the type of indigestion resembling gallbladder disease, in the absence of positive or doubtful skin reactions, I would rather depend upon the elimination of the vegetables mentioned (cucumber, cabbage, radish, etc.), and raw

FRANK W. SMYTHE, M.D.

Practice limited to

Surgery and Radium Therapy

Baptist Hospital Annex

Memphis, Tenn.

apple, than wheat, egg and milk if I had to make a choice between the two groups. There are also many facts to be considered in connection with the interpretation of food reactions. It has been my observation that skin tests may be negative or doubtful if the food in question has not been eaten for a long period of time. It is well to remember also that a small reaction to a food with little protein, such as Irish potato, may be just as significant as a large reaction to egg with its 50 per cent protein content.

No attempt should be made to prescribe a complete and permanent diet at the outset because positive reactions to foods may represent past, present or future history. A trial diet, lasting three weeks as a rule, should be given but with the distinct understanding that any food desired, including those that reacted, should be tried separately at the end of the trial period and only those that can be proved harmful should be eliminated permanently. The history of food dislikes or that certain foods disagree should be given as much consideration as a positive skin test.

Finally, if a satisfactory diet cannot be selected from the information obtained by skin testing, or in the absence of positive reactions, a food and drug diary may solve the problem.

SUMMARY AND CONCLUSIONS

1. Attention is called to allergic reactions in the liver because we are more familiar with other gastro-intestinal allergies, such as those affecting the mouth (herpes, canker sores) and lower gastro-intestinal tract (diarrhea or colitis due to shell fish and other foods).

2. Allergic reactions in the liver may produce symptoms pointing to a general toxemia or, by reflex action, affect the stomach and upper portion of the gastro-intestinal tract, with symptoms difficult to differentiate from organic disease, particularly cholecystitis. As a prominent surgeon once remarked, "It is unfortunate to remove a gallbladder if the symptoms were due solely to an allergic process in the liver because those patients never develop 'writer's cramp.' On the other hand, they continue to write 'I am having the same symptoms as before operation'."

3. Surgery is not opposed when indicated but fails if allergy is responsible and ignored, just as sinus surgery does in asthma when an inhalant or ingestant is the etiologic factor.

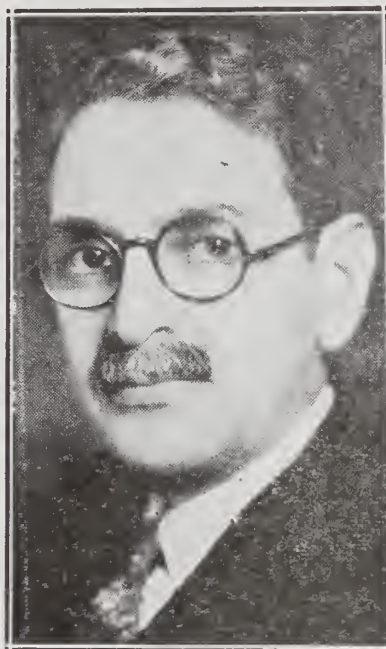
4. Great care should be exercised in prescribing trial diets and no one method should be used to the exclusion of the others.

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2005-7 Sterick Building.

Dr. Isidore Cohn



Dr. Isidore Cohn who has recently been made chief of Surgical Service at Touro Infirmary succeeding Dr. Rudolph Matas who resigned.

Graduate, Louisiana State University, 1903, B.Sc.; Tulane University, 1907, M.D. Served internship Shreveport Charity Hospital 1905-06; Touro Infirmary 1907-09. Appointed by Dr. Rudolph Matas to the Surgical Teaching Staff of Tulane University March, 1909. Has passed through the various grades on the Teaching Staff of the University until the present time is Professor of Clinical Surgery in the Under-Graduate School. In 1932 elected Professor and Head of the Department of Surgery, Graduate School of Medicine, Tulane University.

In 1911 Dr. Cohn was appointed on the Staff of Touro Infirmary. During the intervening period has occupied all of the positions from that of Clinical Assistant to the present position—Chief of the Surgical Staff—successor to Professor Rudolph Matas.

During the intervening period of his medical career Dr. Cohn has been fortunate in enjoying the personal friendship and valuable guiding counsel of Dr. Matas, the Dean of the Surgical profession of this country.

Organizations: Fellow of the American College of Surgeons, Member Southern Surgical Association, one time Vice-President of the Organization; Southern Medical Association, one time Vice-President; American Medical Association; Louisiana State Medical Society; Orleans Parish Medical Society; Society for Experimental Biology and Medicine; American Medical Editors and Authors Association. Member Phi Kappa Phi and Alpha Omega Alpha, honorary medical fraternities.

Member of the Fracture Committee of the American College of Surgeons and Chairman and organizer of the Regional Fracture Committee for Louisiana of the American College of Surgeons.

There are more than one hundred medical contributions contained in the list of Dr. Cohn's published bibliography.

HENRY G. HILL, M.D.
Clinic, 847 Madison Avenue
Memphis, Tennessee

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Plural Births

"All childhood is a sweeter thing
Because there came a child.
All labor is a nobler thing
Because there came a child.
All living is a richer thing
Because there came a child."

Since the birth of the Dionne babies, the quintuplets, on May 28, 1934, more has been thought, written and read about plural births than ever before in all the history of time. Much information along this line has been accumulated and disseminated and many interesting facts have been discovered. One of the most interesting studies in all science is that of births, but in this brief article we shall not consider it from a scientific standpoint, but simply narrate some of the facts that we have picked up and assembled in this casual study of an interesting question. We believe the statements contained in this article to be substantially correct but we can not "swear to them." Some of these statements are backed by the statistical bulletins of the Metropolitan Life Insurance Co., which is one of the most reliable sources of information to be found in the country. Others are taken from newspapers which vouch for their accuracy.

The population of the world is not definitely known but is estimated at two billion people. The number of births per year in the world is not definitely known but has been often stated to be above 50 million, running, it is claimed, about 150 thousand births per day. Speaking in round numbers this would set the birth-rate of the world at about 25 births per year to each 1000 of population. This is a higher birth rate, taking the world over, than we have in the United States. The official record for the United States last year shows 17.1 live births for each 1000 of population. The lowest birth rate in the United States for 1934 was in California where there were 12.7 births to each 1000 of population. The highest birth rate in the United States was in New Mexico where the record shows 27.9 births to each 1000 of population. In Mississippi last year the birth rate was 23 for each 1000 of population, the total number of births being 47,347 live births and 2,213 stillbirths. In the United States there were 2,158,919 live births and 78,436 stillbirths. It may be stated here that it is estimated that in the United States each year 15,000 mothers die from childbirth.

In the United States the birth rate has declined systematically for 135 years. In 1800 there were in the United States 976 children under five years of age for each one thousand women of child-bearing age. Each census of the government has shown a decline with one exception. In 1850 there were 699 children under five for each 1000 women of child-bearing age. In 1860 there were 714, showing an increase of 15 over the previous census. With that exception the decline has been steady. In 1800 there were 976 children under five for every one thousand women of child-bearing age and in 1934 there were 350 children under five for each 1000 women of child-bearing age. Slightly more than one-third of the number of children now than of 134 years ago. Many other nations of the world have shown a similar ratio of decline. It has been estimated by experts that to maintain a

stationary population there must be at least 360 children under five years of age to each 1000 women of child-bearing age, and we are now under that required ratio.

Many interesting and extraordinary things happen in the matter of births. At the present time the only quintuplets living in the world are the Dionne babies in Canada, who were 14 months old on July 28th. They are in good health, all growing and developing and all are fully normal. One authority states that in the world thirty cases of quintuplets have been recorded and at least five cases of sextuplets, but the sextuplets all died in less than one hour after birth and only the Dionnes of the "quins" have survived more than a few hours. Quadruplets are more common. In fact some good authorities cite that once in every 400,000 confinements quadruplets are born, but it is very rare that all of them live. There is at this time but one case in the United States where quadruplets have reached the age of 20 years. That is the Keys sisters of Hollis, Oklahoma, who recently celebrated their 20th birthday and who also recently completed their sophomore year in Baylor University at Waco, Texas. Another set of quadruplets in Michigan celebrated their fifth birthday in May of this year.

In the United States a record was kept for five years—1926-30, and it was found that in every 86 confinements there was one set of twins. In every 8,745 confinements there was a set of triplets and in every 552,000 confinements a set of quadruplets. No quintuplets showing up during this five year period. It is stated, however, that in the United States a set of quintuplets may be expected once in every 57 million confinements. It is contended that the age of the female has something to do with plural births. For instance plural births occur three to four times as often in women from 35 to 40 years of age as they do from 20 to 25 years of age. Two records have been discovered recently, according to associated press reports, that are probably un-rivaled in the history of the world. One found that in January, 1600, 335 years ago, a German woman gave birth to seven babies. They lived 11 days and all died at noon on the same day. At stone tablet was erected and still stands on the spot where the woman lived. But when it comes to filling rush orders a woman in Pennsylvania probably holds the world's record. This record came to light a few days ago and is vouched for by The Associated Press and was published in the New York Times of June 9th. This record was made in 1826. The books of an old doctor have been kept by members of his family and from this record it was found that Mrs. John Kelley, a pioneer mother of Mercer, Pennsylvania, who moved there from New York state, gave birth to two sets of quintuplets and one set of twins within 20 months, and before leaving New York she had given birth to one set of triplets. The two sets of quintuplets arrived a little less than 12

J. A. HUGHES, M.D., F.A.C.S.

Eye, Ear, Nose and Throat

Suite 1805-6 Sterick Bldg.

Memphis, Tennessee

months apart and the twins eight months later, all somewhat premature and none lived but a brief time. Soon after the twins were born the mother died.

Georgia has a very interesting set of triplets being cared for by the Ethel Harpst Home, an institution for girls, but not for babies. These three babies, two girls and a boy, were born last Easter day to parents who were poor and on relief. The mother died and the father being unable to care for the babies requested the Home to adopt them which was done. The largest one weighed four pounds and the smallest two and three-quarter pounds. It is said that they are now growing and thriving and are the pets of the institution. At birth they were premature and the home had no incubator. They took care of them with an improvised arrangement of hot water bottles and fed them with medicine droppers and they have not had a doctor since their birth, and a trained nurse for only one week. This record suggests that somebody had some mighty good, practical, common sense, such as might be needed at almost any time in any community. In Alabama a school girl 11 years of age slipped out and married a 25-year-old farmer. In a Birmingham hospital last week she gave birth to a normal baby, the mother is now 12 years old. A similar case as to age has been reported from Syracuse, New York. International News Service carried a picture six weeks ago of Mrs. Otto Eiler of Honolulu, who is a grandmother at the age of 30. A few months ago the newspapers carried a story and a picture of a girl who had become a mother at the age of 11 years. A case was reported from Liberty, Missouri, last week where an 87 year old father was required by the court to put up \$25 a month for the support of his two months old son, complaint having been made by his 19 year old wife.

A very interesting contest is on in Toronto, Canada. Charles Vance Millar, multimillionaire, died there in 1926. In his will he provided a bounty or reward of a half million dollars to the Toronto mother who produced the largest number of children between 1926 and 1936, a ten year period, ending October 31st, 1936. At the present time Mrs. Lilly Kenny is leading the field, having given birth to 11 children since the contest opened 9 years ago. In all she has given birth to 14 children and is now only 32 years of age. Another mother in the running has given birth to 23 children in all but only nine in the past nine years. Still another in the contest is the mother of 27 in all but only four since the contest began. It seems now that Mrs. Kenny is sure of the big prize but she says if she fails to win she will continue to make a living at the wash-tub as she has been doing in the past. However, the contestants have all entered into an agreement to divide the money, so it seems that all seven will be well cared for. It is agreed that the winner will take the big prize and split it up and all will be rich and happy.

All down the history of time these phenomenal things have happened in the course of nature. They are historical and interesting and may happen at any time. Some weeks ago an Atlanta paper carried the picture of 26 sets of twins going to one school in that city at the same time. We recall that Jacob and Esau were twins, born 20 years after Isaac and Rebekah

hooked up for better or worse. The only material in this wide world out of which a man or a woman can be made is a baby. Whenever the Stork quits coming around the population will begin to dwindle and soon will reach a sub-standard, both in quantity and quality. The greatest inspiration that ever came to the home is the baby. The sweetest flower that ever budded and bloomed on earth is that tiny pink wad of flesh and blood into which the God of love has installed the little motor of life.

"Where did you come from, baby dear?
Out of the everywhere into here.

Where did you get those eyes so blue?
Out of the sky as I came through.

What makes the light in them sparkle and spin?
Some of the starry spikes left in.

Where did you get that little tear
I found it waiting when I got here.

What makes your forehead so smooth and high?
A soft hand stroked it as I went by.

What makes your cheek like a warm white rose?
I saw something better than any one knows.

Whence that three-cornered smile of bliss?
Three angels gave me at once a kiss.

Where did you get this pearly ear?
God spoke, and it came out to hear.

Where did you get those arms and hands?
Love made itself into bonds and bands.

Feet, where did you come, you darling things?
From the same box as the cherubs' wings.

How did they all just come to be you?
God thought about me and so I grew.

But how did you come to us, you dear?
God thought about you, and so I am here."

Offices of
WILLIAM CALVERT CHANEY, M.D.
20 S. Dunlap Street
Memphis, Tennessee
Internal Medicine and Allergic Diseases

WADE CLINIC
Wade Building
Hot Springs National Park, Arkansas
DR. H. KING WADE, Urologist
DR. CHARLES S. MOSS, Surgeon
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Tuberculosis Abstracts

Tuberculosis is a serious disease in infants but even they usually recover from primary complex and often secondary lesions. Older children do very well when properly handled, if the diagnosis is made early, before meningeal or serious pulmonary involvement. Abstracts of an admirable review of tuberculosis in children, by Charles Hendee Smith, is here presented.

TUBERCULOSIS IN THE CHILD

Many physicians think that all children are infected, and that so-called "tuberculous infection" may be disregarded unless "tuberculous disease" supervenes. This is a most dangerous view and often leads to neglect of children who deserve care. Many other physicians do not realize that serious tuberculosis is not at all rare in infancy.

There are two measures of the incidence, namely, the tuberculin skin reaction, and the death rate. The widespread impression among physicians that the tuberculin reaction is of little significance, and that practically all children after infancy are infected is far from the truth. The tuberculin reaction gives very definite information; it shows that the tubercle bacillus has lived and grown in the child's body and has given off something, exciting a sensitivity of the body cells to tuberculin. A positive tuberculin skin test does not tell whether the disease is active or not, nor whether the lesion is tuberculous, but merely that the individual has been infected at some past time.

Of the skin tests, the Mantoux or intracutaneous test has supplanted all others, since it is much more reliable than the Pirquet, Moro, or Calmette tests.

The death rate from tuberculosis, another measure of incidence, is as high in the first two years as any year until early adult life. It falls off rapidly up to five and the lowest rate is from five to 15, after which there is a steady rise. Tuberculosis is often a fatal disease in infants, but relatively not fatal in school children. The clinical aspects of tuberculosis are different in infants (up to two or three) and in older children, and they need separate consideration.

INFANCY TYPES

In infancy the primary focus gives few physical signs. A transient unexplained fever and perhaps failure to gain well are its only symptoms. In fact the element of surprise is the predominant note in nearly all infantile tuberculosis. The following types may be distinguished.

1. Tracheobronchial adenopathy of large extent. Such infants usually have fever and do not gain well. The chest shows practically no signs. The roentgen-ray gives a wide supracardiac shadow, often rounded outlines on one side or both, suggesting nodes.

2. Cases of "marasmus." There may be a story of feeding difficulty, but many infants do well at first and then begin to fail. Routine roentgen-ray should be done on all such patients and may reveal definite tuberculosis in the lymph nodes or wide dissemination, or even large cavities.

3. Cases simulating pneumonia. Fever, prostration, cough and physical signs of consolidation or with crackling, resonant rales at the bases suggesting bronchopneumonia. These infants may be emaciated but are often fairly well nourished. The roentgen-ray shows mottled shadows over part or all of the pul-

monic fields, indicating bronchogenic disseminated tuberculosis or localized consolidation much like a lobar pneumonia.

4. Unexplained high fever, without local signs, often turns out to be disseminated pulmonary or generalized tuberculosis.

5. A final group includes the cases which are definitely suspected of tuberculosis from the outset.

Physical examination of the lungs is often most unsatisfactory in small children. The stethoscope is the least useful instrument at our disposal in the tuberculosis seen in childhood. The roentgen-ray may reveal large lesions in cases where no signs whatever can be elicited either before or after seeing the film. In all the acute and exudative forms of tuberculosis there is a leukocytosis.

OLDER GROUPS

Older children with a positive skin test, fall into the following groups.

1. Recent infections in those who have been infected within two years or less, that is, those who have a fresh primary complex.

2. Those who show calcification in the hilus region of the lung, perhaps a calcified primary focus in the parenchyma.

3. Children who have been infected more than two years who have healed their lesions by resolution and show no calcification.

4. A few who have definite pulmonary tuberculosis.

5. A few who have non-pulmonary tuberculosis in mesenteric nodes, cervical nodes, bones, kidneys or skin, etc.

It is important to determine whether the disease is active or not, since this is the keynote of treatment. Constitutional symptoms are more significant than roentgen-ray findings or physical signs. The better way is to test the children first, then roentgen-ray the positive reactors and in addition seek for signs of activity in all, regardless of the roentgen-ray findings.

The clinical picture of activity is characteristic and quite obvious to a trained observer. The symptoms and signs are few but added together should be enough to arouse suspicion of what is happening to the child. Fever is an almost constant sign of activity: that is, a rectal temperature which rises above 100° nearly every day. Temperatures under 100° may be disregarded in childhood. The fever is irregular, rising to a different level on different days. The highest point may be at any time of day or even in the middle of the night. The great irregularity is characteristic.

Failure to gain weight at the proper rate, (if due to malnutrition) is always a suspicious sign. No other disease seems to exercise so prompt an effect on the nutrition in childhood. Gain in weight may occur in adults with advancing lesions, but is rarely seen in children. There is often secondary anemia.

In infancy, fever, loss of weight, with or with-

ROBIN HARRIS

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Jackson, Mississippi

out persistent signs in the lung, should suggest tuberculosis. Of course, bone disease and meningitis always do so. A Mantoux test, the roentgen-ray and carefully recorded temperature and weight curves are necessary to complete the diagnosis.

In older children, failure to gain, languor, fatigability, a low transmission of the tracheal whisper and hypertrichosis are suggestive. Phlyctenules, tuberculides or other local disease may be the first sign. With a positive Mantoux, fever is significant of activity even with a normal roentgen-ray.

In the diagnosis of tuberculosis three questions should always be kept in mind.

First. Has the child been infected with tuberculosis? Answered by the Mantoux test.

Second. What is the site of the disease? The answer may be given by the symptoms, physical examination and roentgen-ray films. All of these may be practically negative, but in this event the mediastinal nodes are probably the site of the disease, since they are involved in most primary infections, or secondarily to some degree even when the primary complex is elsewhere.

Third. Is the disease active, stationary, or cured? This must be judged by general symptoms, fever, the effect on the nutrition and by any signs or symptoms of local activity.

TREATMENT

The treatment of children with tuberculosis is based on the same principles as those used in adults. If there are no local or general signs of activity a child should lead a normal life with somewhat closer watching than usual. Activity of the process as shown by fever, failure to gain and local signs of activity, demand rest until all the symptoms have entirely disappeared. The diet is important. Children do not take food nor digest it well if fed too often. Milk between meals or with meat meals is not advisable for any child.

The difficult period comes when a child first begins to get up. As soon as the temperature stays under 100° for several weeks. If he is up to normal weight, and if there is no contraindication from local signs of activity he may be allowed up a little at a time but with care to avoid over-exercise. The effect on the temperature is the guide, as in adults. If the temperature again rises as a result of activity it is necessary to put him back to bed again and start over again.

The Tuberculosis of Childhood, Charles Hendee Smith, *Annals of Internal Medicine*, March, 1935.

Sanitarium Opens

Dr. M. J. L. Hoyer announces the opening of Hoyer's Sanitarium in the mountains of Meridian, for Nervous and Mental Diseases, Drug and Alcoholic Addictions, Meridian, Miss.

Deaths Of Mississippi Physicians

Dr. John Curtice Pickett, Caledonia, July.

Dr. George Clinton Ballard, formerly of Biloxi, Miss., died in Little Rock, Ark.

Dr. J. R. Richardson, Indianola, July.

Public Health News

Mr. Enrique Volio of the Costa Rica Department of Health who has been studying at the Harvard Engineering School, spent about two weeks in Mississippi recently looking over the sanitation work of the State Board of Health.

Dr. John K. Sphangos, a member of the faculty of the Athens, Greece, School of Hygiene spent the month of July studying the organization of the State Board of Health, the full-time county health work program, also public health nursing and malaria activities. Dr. Sphangos has been studying at Johns Hopkins University.

Dr. Alberto P. Leon, of Mexico City, who has just completed a year's study at Harvard University, spent all of July and will remain through August observing the Mississippi public health program. Dr. Leon will return to Harvard for a second year of study and then will return to Mexico to a post in the public health department.

Mr. T. Y. Koo, of the Central Field Station, Nanking, China, who has been studying sanitary engineering at the University, of North Carolina, recently spent ten days in Mississippi viewing the malaria control and sanitation work.

Mississippi welcomes public health and medical men from other countries. One of the outstanding things each visitor notices and compliments is the close and fine cooperation between the private practitioners and the public health workers. This has been no small factor making the public health program successful enough to attract visitors from foreign countries. In recent years, public health officials from eighteen foreign countries have been in Mississippi to study our program.

Book Review

With the startling revelations of the past few years on glands and their diseases, their functions and relations to other body organs, has brought an inquiring attitude from the profession generally. Perhaps the gland of greatest importance in its influence over the body functions is the thyroid, and its chief affection is the goiter. Dr. Arthur E. Hertzler, Halstead, Kansas, has out a new edition of his "Diseases of the Thyroid Gland," prepared especially for the doctor in the small hospital or the general practitioner who can observe his patients often and over a long period of time. Dr. Hertzler believes that goiter is a continuous process, normally terminated by a cardiac death. His considerations of the disease are clearly presented, frequently illustrated by photographs or drawings. He shows the goiter from childhood, in its toxic, colloid and diffuse; degenerated goiter and tumors; thyroiditis and hyperthyroidism. His operative technic is concise and adequate. And his hospital management is simple and well adapted to the small hospital. You will not find a book on the subject more clearly or fully presented.

Published by C. V. Mosby Co., Price \$7.50.

HOYE'S SANITARIUM

"IN THE MOUNTAINS OF MERIDIAN"

Meridian, Mississippi

Cut of Sanitarium was not received in time for this issue, but
will appear here next month.

For Nervous and Mental Diseases, Drug and Alcoholic
Addictions, Rest and Convalescence.

Ten acres of beautiful grounds sufficiently removed from highway to insure privacy. Building completed in July, 1935. Ideally arranged, all outside rooms with connecting bath, equipped for the comfort, care and treatment of the class of patients received. Personnel trained in Massage, Physiotherapy, Occupational Therapy and Hydro Therapy. Adequate night and day nursing service maintained.

Reference: The Medical profession of Meridian, Miss.

DR. M. J. L. HOYE, Superintendent

Formerly Superintendent, East Miss., State Hospital

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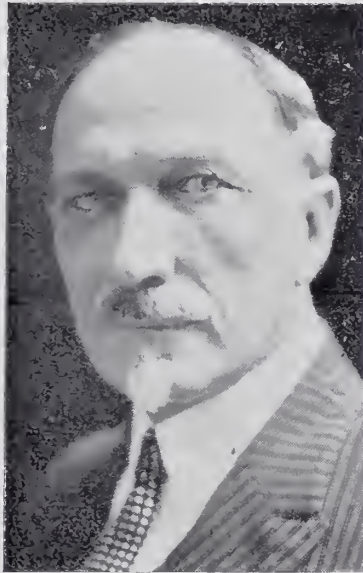
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VOL. 13.

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NO. 4



DR. JOHN DARRINGTON
Yazoo City, Miss.

Ex-President of the Mississippi State Medical Association, talented, versatile, a chief corner stone in organized medicine in his state.

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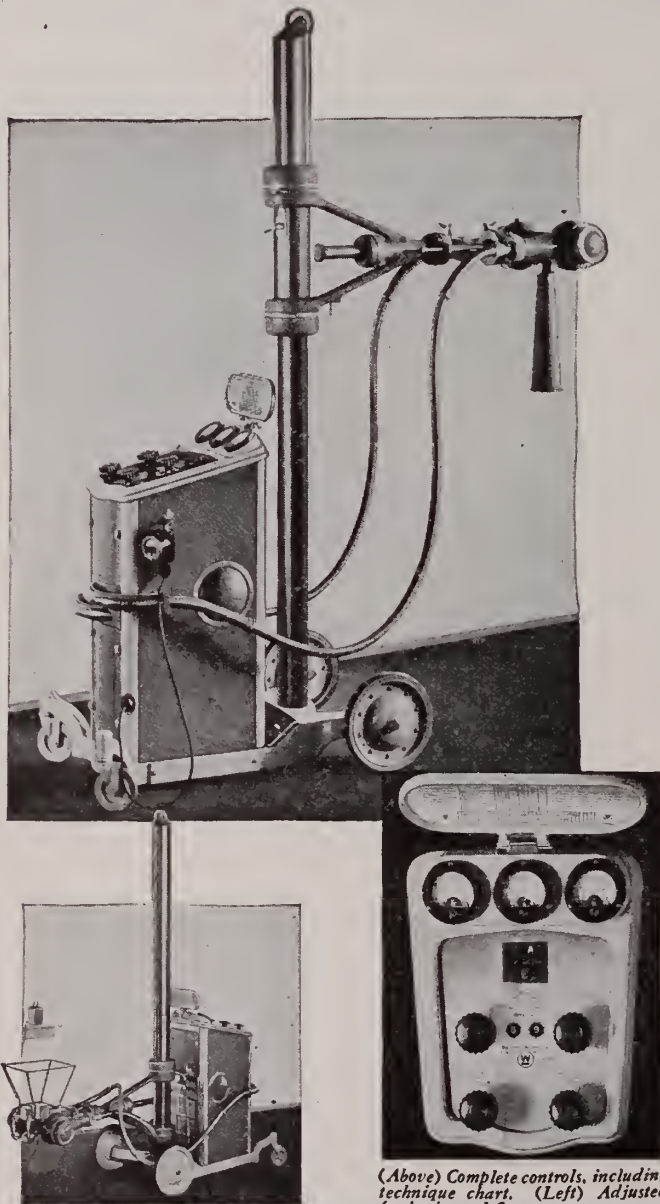
*and perhaps also for their fathers who have to gulp a one-minute breakfast before going to work.

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The Mississippi Doctor

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EDITORIALS

The conscientious, intelligent, hard working physician receives less pay for the amount of service he renders than any one of any other profession, we believe. Outright charity constitutes a large amount of his work. The dead beat comes in for a part, and then the man who waits to pay the doctor last. The relief program has helped many unfortunate poor. The amount paid to the doctors helped also. But the medical profession was discriminated against as was no other. The merchant was paid full price for his goods, the druggist did not cut a nickel that we know of, the dentist very little, it seems. The doctor was parceled out one fifth to one half price, some times less. This amount helped to be sure, but it was not fair. For many years, the people thought that a minister of the gospel did not need to be paid for his services, not unless it was altogether convenient. The minister has overcome this to a marked degree. He has preached over and over that a servant is worthy of his hire. The doctor should take medical journals and read them. He should attend medical societies. He should take post graduate courses. He should do his best for his patient and should be able to do as well as any one else in the work he proposes to do. His prices should be reasonable according to what the patient is able to pay and then he should let the patient know in the beginning that he expects to be paid, just as the merchant expects to be paid, the druggist, the teacher, the lawyer and the minister. The doctor who expects no pay shall not be disappointed.

The third quarterly meeting of our society met at Greenwood Springs according to schedule. It was a nice meeting. The versatile and brilliant Dr. Deans presided as president with the faithful Dr. Stacy at his regular post. The scientific program was above the average. Dr. John Darrington, of Yazoo City, was the guest speaker. He is both orator and thinker and is always an interesting speaker. For many years he has been one of the chief corner stones of organized medicine in this state. He has been well trained, he is a persistent student, is practical in application of the known medical truths, and has vision for the future. We were delighted to have him. He carries good cheer with him that always makes you feel better. He leaves constructive ideas with you. We hope he will come again. He has a standing invitation. Dr. Lapham who is delivering a series of lectures on obstetrics in Northeast Mississippi was present and ably discussed Dr. Christian's paper. His lectures are being greatly appreciated in this section. Dr. Felix J. Underwood was present to the delight of the entire society. The bigness of a man can usually be told by the way he holds on to the folks back home. Dr. Underwood has ever been faithful to his home society. His presence is always a help and an inspiration. His work in public health is now well known over the entire United States. The entertainment was very lavish at the hotel. The doctors of Monroe County do exceedingly well what they undertake. The Bryan spirit is always in evidence, good cheer, cordiality, and helpful fellowship.

It looks as tho Tupelo is to have a three hundred thousand dollar hospital built in the main by the Commonwealth Fund. Tupelo and the doctors of Tupelo in addition are subscribing very liberally. If this large hospital is to be constructed Tupelo is the best town in North Mississippi for it we believe. We need more money for the hospitals of this state. Northeast Mississippi, our thirteen counties have the best system of small hospitals we think in the world. It seems to us that it would have been mighty nice for the Commonwealth Fund to have made a donation to a dozen hospitals in our society instead of only one. It is all right to have one as a kind of clearing house for our twelve, but we should not have one that will weaken our splendid system. This should be duly considered in the plans. The interests of the local doctors should be guarded also in this set up. If the people who have the means and the prestige could only see that it is the little twenty-five bed hospital that is so badly needed now to reach the masses out on the commercial firing lines we could soon make more progress. These hospitals should be well equipped to be sure, but the medical profession and the people should learn that so much equipment is not always imperative. Instead of centralizing, we need to decentralize medicine. Instead of teaching young doctors and nurses in terms of so much expensive equipment, we need to teach how to do it well with less investment. A plain shave is what the average man needs, the other expensive frills are not so important. If this three hundred thousand dollar hospital is to be used largely as a clearing house for complicated cases, be well affiliated with the surrounding hospitals, it can be of untold service, but if it is to weaken our other little hospitals, then it calls for much more thought.

In the passing of Dr. Julius Crisler, of Jackson, Mississippi lost one of her ablest surgeons and one of her finest men. Dr. Crisler was a pioneer in surgery in this state. He was a close student. He was conscientious. He was blessed with plenty of native ability. His thinking was made stronger because he thought honestly. He thought for the good of his profession and for the aid of his clientele. In the art of surgery he was a master. In surgical diagnosis and operative judgment he was outstanding. He had a sympathetic heart. He was devoted to the profession. He loved the work. He took an active part in organized medicine. In Christian citizenship he was strong and active. The Crisler family has been, and is outstanding, able in native ability and scholarly leaders. To them, one and all, The Mississippi Doctor offers its sincerest sympathy.

The Mississippi Doctor offers its sympathy to Dr. F. L. Husbands, of Blytheville, Ark., in his misfortune of receiving a fracture of his right leg. Dr. Husbands is a former president of the Mid-South. He was very active in the reconstructive days of the association. He is still one of the corner stones.

The Southern Medical Association will hold its next session in Saint Louis. This is a central location. The attendance should be fine. The program is always good. It has the Loran spirit which means much.

We are glad to see our friend Dr. Dick Cauthen McCool locating in Memphis for his specialty. He has spent much time and money in securing his education and deserves much success. He took his B.S. degree from Ole Miss, his M.D. at the University of Illinois, and spent much time in post graduate work in Neurology and Psychiatry in Chicago, Kankakee, and Elgin, also fourteen months at the Mississippi State Hospital at Jackson. Dr. McCool is a close student and he is a hard worker. He has our cordial good wishes.

You will read with interest an excerpt from the address of W. M. Cunningham, president of the Alabama State Medical Association. Dr. Cunningham is a tireless worker. He does conscientious work. He has good judgment. He is a leader in organized medicine. He has deep convictions and he has the courage of his convictions. It will always do you good to hear him, to read what he has to say, to talk with him on any subject. Dr. Cunningham lives in the little city of Jasper.

Dr. Gillespie, of Sherman, was a general practitioner, faithful to the trust. Duty was his watchword. He was a progressive citizen. His personal appearance was always in keeping with the dignity of the profession, with what the people have a right to expect, neat as a pin. His services will be greatly missed in the little town of Sherman and the surrounding territory. This journal extends its sympathy to the bereaved ones.

Dr. Reed, of Amory, has done some outstanding work in his private practice in the diagnosis of tubal pregnancies before rupture. He is doing fine work in the saving of human life, in preventive surgery, in the prevention of hazardous surgery. Some of our most brilliant minds and best practitioners may be found in the small town and the rural community. Keep up your spirits and go forward as Dr. Reed is doing, Dr. W. M. Reed.

The Mississippi Doctor deeply regrets the serious illness of Dr. R. C. Bunting, chairman of the program committee for the Mid-South Post Graduate Medical Assembly. In building the Mid-South to where it is, much of the credit is due Dr. Bunting. He has been a corner stone in the mid-southern states for organized medicine for many years. We wish and hope for him a speedy recovery.

The Northeast Mississippi 13 County Medical Society has a fine system of small hospitals, the best in the world we suppose.

The medical centers generally speaking don't know all the problems out on the commercial firing lines that the country doctor has to meet.

Eighty-five per cent of medical practice should be done by eighty-five per cent of the rank and file of the profession.

The machine age is demanding that the small hospital be built out in the small town.

The following is a splendid write-up of Dr. John Darrington taken from his home paper published in 1929. It is so good that it needs no changes. The Mississippi Doctor hopes to tell you about many of our own men and their work in the years to follow. We want to develop Mississippi Medicine and Mississippi Hospitals along with the Mid-South. Read the record of this brilliant career.—Ed.

Prominent among Yazoo City's professional men and one who ranks with those at the top of his profession, not only locally but throughout the South is John Darrington, Doctor of Science, Doctor of Medicine and Fellow of the American College of Surgeons.

Yazoo City is especially proud of her sons who have achieved prominence. Although Dr. Darrington is not a native son, he has been closely identified with Yazoo County since 1892. Equipped only with his degree and license to practice his chosen profession, John Darrington settled at Eden in 1892, later moving to Yazoo City.

Dr. Darrington was born in 1870 in Wilkinson County, about 20 miles from Natchez, the only son of Dr. Robert Darrington and Lenora Molliman Darrington. Upon entering his teens he aspired to follow the profession of his beloved father, who was a surgeon, and he matriculated at Mississippi A. & M. College. Graduating there in 1890 and receiving his B.S. degree, two years later the degree of Doctor of Medicine was conferred upon him by Tulane University. He served his internship in the Natchez Charity Hospital, and then Yazoo County attracted the young physician.

Dr. Darrington lived at Eden until 1898, when he came to Yazoo City and here established a private sanitarium, which was the start of the Yazoo Hospital today. It was also in 1898 that the young physician took a post graduate course at the New York School of Medicine.

He was happily married to one of Yazoo City's most beautiful women, Pauline Gilruth, daughter of the late Col. and Mrs. I. N. Gilruth, and to their union were given two children.

With an ardent love of his profession, the possessor of a keen mind and a man holding the love and confidence of the community, the young physician soon made for himself a name and reputation that has grown greater with the years.

For over 25 years he has been an outstanding member of his profession, an earnest worker in the cause of organized medicine. He has stressed the ethics of the medical profession and the need of honesty in the practice of medicine and surgery. He fought the pernicious fee splitting evil, long before the organization of the American College of the American College of Surgeons took action along this line.

His ability was early recognized and many important positions of trust and honor have been conferred on him. He has served as president of the Tri-State Medical association, was a member of the Mississippi State Board of Health for eight years, has been actively identified with the Central Medical Association, the Mississippi Medical Association, the American Medical Association, the Southern Medical Association, and is a fellow in the American College of Surgeons, an honor that but few Mississippi surgeons can boast.

He has studied extensively, and in the past 25

years he has made 17 trips to the world renowned Mayo Brothers' clinic at Rochester, Minn., in the interest of his profession. Unlike the prophet who "was not without honor save in his own country," John Darrington has enjoyed the confidence and esteem of his own people. He is president of the Yazoo Hospital board of directors, for many years a director of the Bank of Yazoo City, and since 1912 he has been district surgeon for the Illinois Central and Yazoo & Mississippi Valley Railroads, and for 25 years has been an outstanding member of the Public Service Commission. The capable and wise administration of this august body is due to the outstanding vision and business acumen of the men who compose it, and not among the least is John Darrington.

Coupled with his professional duties, Dr. Darrington has always been an ardent sportsman, owning many fine dogs. Hunting and fishing have been the two hobbies of his career, and since the coming some few years ago, of his young grandson and namesake, John Darrington Chapman, this versatile youngster takes up a goodly portion of his leisure time.

The years have dealt kindly with Dr. Darrington. Surrounded by his charming wife, his beloved daughter and his son, who is following the career of his distinguished father, he is going down the hill of life, beloved of his family, esteemed by his friends, honored by his profession, and looking back over an active career of nearly 40 years devoted to serving his fellow-man.

THE CLINIC AND THE COUNTRY DOCTOR

With the turn of the century the hybrid medical school dominated by commercial interests felt the heavy hand of the Council on Medical Education and Hospitals of the American Medical Association. This survey focused attention for the first time in this country upon the fact that medical schools justify their existence largely through their devotion to the public interest. Then was inaugurated the policy of careful selection of applicants for admission to their classes—students actuated by high purposes and qualified by a background of cultural and academic education. With this emancipation of medical education and medicine from its trend toward a business came a new appreciation of the function of school and product—a rededication of both to the advance of the science and art of medicine to the end that human disease might be prevented, its ravages ameliorated, or effectively treated. It followed as a natural sequence of such catholicity of medical thinking and motive that not only was better training in medical schools necessary, but the graduate, too, must be reached, and the public made health-conscious. To supplement the requirements of post-graduate instruction, medical societies, national, regional and state, have committed themselves, in principle at least, to the task of keeping their membership familiar with the advances constantly being made in theory and practice; and public health agencies have multiplied to keep pace with the interested demand upon the part of those for whom in its final analysis the benefits of medicine are conceived.

As past progress has followed a wider diffusion of knowledge, so will the twilight zones of medical practice be illumined when the clinic is carried to the rural practitioner. While one would be bold to

assert that the physician of the populous community was perhaps oversteeped in the cauldron of frequent medical meetings, it can not be gainsaid that the family doctor who sees first most of our physically handicapped, has not enjoyed a commensurate degree of opportunity for practical instruction. If, as many believe, there is over-organization in the profession and overlapping of effort in post graduate instruction, this criticism can only be maintained with respect to the urban physician along with that remnant from town and country who frequent our oft-recurring assemblages.

The opportunity for quick results lies not in more elaborate city meetings but in decentralization of effort by carrying the clinic to the country doctor who is ready and eager to listen to practical instruction and anxious to supplant his obsolete methods by new and more effective procedures.

While there may be ready agreement on this necessity among those who shape the policies of the extension departments of medical schools and formulate the activities of medical societies, the fact remains that no sustained program in this direction has been prosecuted in the territory covered by our Congress. Indeed, one is wont to inquire if it would not be to the interest of the profession throughout the country if some official body carrying the same weight of authority as the Council on Medical Education and Hospitals was created to make a survey of medical organizations, looking to the elimination of the holding of annual meetings in which quasi-scientific papers are presented. Something more is necessary if a medical society is to earn public approval and make claim to the active support of the profession. It is a question of quality of organization rather than number, of mission rather than name, of objective rather than location, of fruit rather than embellishments in personnel and program.

It was with such fundamental consideration in mind that The Southeastern Surgical Congress was founded. From its beginning it was dedicated to teaching. For its faculty it seeks to include all those physicians who measure up to the four-square standard—unquestioned character, sound training in the art and science of practice, an appreciation of the dignity and obligation conferred by membership in a learned profession and a willingness to contribute through the written page, the platform, or the clinic to the higher development of Southern doctors and the elevation of the standards of Southern practice. Their classrooms we believe, should be set up in town and hamlet; their material the patient presenting practical problems of interest to the family physician. Our teaching will thus attack the problem of post-graduate education in the neglected community where labor the great army of the unobserved to whom all medical learning in its finality must go for effective application to the patient.

To this end the Executive Council of the Congress has approved and recommends the holding under state chapter auspices of frequent, one-day clinical programs in rural districts. The clinicians, for obvious reasons, should, whenever possible, be drawn from the immediate territory concerned with the discussion supplemented by visiting colleagues. The patients presented will be selected so as to furnish for analysis the commoner problems met by the rural

physician.

To such meetings where post-graduate instruction shorn of its pomp is presented in simple fashion, there will come an earnest group moved little by the erudite methods which compliment the metropolitan amphitheatre, but quickly responsive to the teacher who has a practical message.

In such soil we will do well to plant. From such planting in due season the abundant harvest will be reaped. With such a program The Southeastern Surgical Congress will deserve to be included in that family of societies which by the very excellence of their service to the public have earned for themselves the esteem and gratitude of the community.

C. W. ROBERTS, M.D.

The above editorial was taken from The Southern Surgeon, August, 1935, Vol. IV., No. 4.

In the multitude of specialists there is great danger.

Be sure to read the article by Dr. Roberts published through the courtesy of The Southern Surgeon.

Letters to the Editor

I wrote you at this time last year in regard to the ionization treatment for hay fever, stating what I had learned from my visit to Dr. Warwick in Fort Worth and expressing the hope that we had found something that would help us in giving more satisfactory relief to hay fever sufferers than we had been able to do in the past.

I gave the treatment to eleven patients suffering from hay fever last fall. I have recently received letters from all but two of those patients. These letters without an exception, reported marked improvement in the condition during the remainder of their hay fever period last fall. Reports from nose specialists all over the country indicate that this method is meeting with very encouraging results. Drs. Alden of St. Louis and Hurd of New York recently read papers in Toronto, in a medical convention, which I attended and their papers and discussions which followed, established the great value of this method of treatment, especially of seasonal hay fever. The main objection to the treatment has been that in some cases the severity of it necessitated the patient going into the hospital over night. That was when both sides of the nose were ionized at the same sitting. We have found that ionizing one side first and waiting two or three days before ionizing the other side greatly reduces the severity of the treatment. Most of my cases I do in the office and they are inconvenienced very little by the treatment. I would advise patients coming for the treatment to be prepared to stay three or four days. It takes a little longer to give the treatment in two stages but is much less severe in the end. Several of the nose and throat specialists of Memphis have equipped themselves to give the treatment and we believe that hay fever sufferers in the future can be assured an alleviation from the sufferings which they have experienced in the past.

Yours very truly,

C. D. BLASSINGAME.

The Use of Alcoholic Beverages in Medicine

SEALE HARRIS, M.D., F. A. C. P.,

Professor Emeritus of Medicine, University of Alabama.
Birmingham, Ala.

A part of the propaganda to induce the American people to drink, and to legalize the sale of beer, wine and other alcoholic beverages is that they are needed for the treatment of the sick. There is just about as much physiological basis for the idea that alcohol in any form is ever beneficial as a medicine as there is reason in one of the "Little Johnnie" rhymes, i.e.:

"Little Johnnie had a looking glass;
He ate the back all off.
In his youthful ignorance
He thought 'twould cure the whooping cough.
On Sunday at the funeral,
Mrs. Smith said to Mrs. Brown,
'It was a cold day for Johnnie
When the mercury went down'."

The man who drinks whiskey, wine or beer to cure any disease—or for any other purpose—is just as ignorant, and as foolish, as "Little Johnnie" who thought that mercury would cure the whooping cough; and there are funerals every year in every community in the land at which, with truth and propriety, Mrs. Smith could say to Mrs. Brown, "It was a cold day for the departed brother when the alcohol went down."

Dr. Henry Christian, Professor of Medicine of Harvard University, in summarizing the opinions of clinicians regarding the use of alcohol as a therapeutic agent, says: "It seems a fact that in both private and hospital practice the utilization of alcohol and alcoholic beverages by the better trained physicians has decreased greatly and is continuing to decrease."

I can recall as a boy that whiskey was thought necessary in the treatment of almost every patient who was ill from any cause, but that kind of practice has passed into "the limbo of things that were." Likewise, up to twenty or thirty years ago there was a bottle of whiskey in every home, and it was the first thing to give in colds and any other ailment that one had. Fifty years ago in pneumonia and typhoid fever when patients were purged, blistered and starved, the "sheet anchor"—which often anchored the victims into eternity—was whiskey, from a pint to a quart a day.

It is true that even in this day of scientific medicine there are physicians who prescribe alcoholic beverages for pneumonia and typhoid fever, but their number is diminishing and confined largely to those who have not read of the scientific studies on the physiological effects of alcohol upon the human body. It is pleasing to observe that there is a decreasing number of doctors who do not apply the principles of personal hygiene to themselves and, therefore, drink alcoholic beverages. The morphine habitue believes that morphine is good for everything and everybody, whether sick or well, and the doctor who is an opium addict often leaves behind him a trail of drug addicts. Likewise, the physician who drinks is prone to believe that alcoholic beverages are good for everything and good for everybody, and I have seen deadly alcoholism in persons that resulted from the prescribing of alcoholic beverages in illnesses. The remedy is often

more dangerous than the disease itself.

ALCOHOL A DEPRESSANT

Alcoholic beverages were formerly used as "stimulants." Now we know that alcohol in whiskey, brandy, wine, or beer depresses the function of every organ in the body, the amount of the depression depending upon the amount ingested. So eminent a physiologist as Professor Hemwitch of Yale University states unqualifiedly that "alcohol in all concentrations is a depressant both motor and secretory." Hemwitch admits that alcohol in small quantities is oxidized as a food but does not advise its use in diet because of its toxic properties. Dr. Bogau, a distinguished California pathologist, in discussing "the human toxicology of alcohol" says: "No other poison causes so many deaths, or leads to, or intensifies so many diseases, both physical and mental, as alcohol in the various forms in which it is taken." He concludes with the following statement: "Alcohol is the most dangerous poison included in human diet." Is it rational to use such a drug in the treatment in any disease?

ALCOHOL IN PNEUMONIA AND TUBERCULOSIS

Pneumonia is the one disease in which alcohol has been used most by physicians. Dr. Joseph Miller, Chicago University Professor of Medicine, in discussing the use of alcohol in pneumonia concludes: "There are no experimental or clinical evidences that support the view that the therapeutic use of alcohol should affect pneumonia favorably." He adds: "If a patient with pneumonia was formerly a heavy drinker, it may be unwise to discontinue his alcohol." He mentions one large hospital in which one thousand or more pneumonia patients are treated annually without alcohol; and the attending physicians see no difference in the results since the use of alcohol as a drug has been abandoned in pneumonia and in sepsis. Miller states that alcohol lowers resistance in all kinds of infections and, therefore, is not indicated in their treatment.

Dr. Richard Cabot, Professor of Clinical Medicine in Harvard University, says: "Alcohol is always a narcotic, never a stimulant and, therefore, has none of the uses ordinarily attributed to it, such as supporting the heart or bringing people out of fainting fits. The supposed value of alcohol in medicine has been exploded, long ago. In our best hospitals—such as the Massachusetts General—it is almost obsolete.

"Infectious diseases—such as pneumonia—have a mortality of 30 to 40% in those who do not take alcohol and 70 to 90% in those who do. The body's resistance of other infectious diseases is likewise diminished by the taking of alcohol."

Dr. Lawranson Brown of Saranac Lake, New York, who is regarded as the leading clinician in the United States on tuberculosis, expresses an opinion that is shared in by all the other experts of tuberculosis whom I know when he says:

"In the sanitarium treatment of pulmonary tuberculosis in this country alcohol (that includes beer

DR. SEALE HARRIS

Gastro-intestinal and Nutritional Diseases
Diagnostician

2234 Highland Avenue
Birmingham, Alabama

and wine) is rarely prescribed. At the Trudeau Sanitarium it is practically never used."

A few decades ago alcoholic beverages were prescribed as a food in diabetes, particularly by German, Austrian and French clinicians, but it has been relegated to the past and is now rarely used, except by doctors who drink themselves, and believe in alcohol for everything. Dr. E. P. Joslin, Clinical Professor of Medicine in Harvard University, in the last edition of his book, says: "Diabetics require no alcohol, and as yet I have not found it necessary or desirable to prescribe it, and this statement applies to my assistants as well."

The Alabama Bryce Hospital, a state hospital for the insane, is, and has been for seventy-five years, recognized as one of the best institutions of its kind in the United States. Dr. W. D. Partlow, the present superintendent, said recently that there never had been a drop of alcoholic beverages in that great hospital with 3000 inmates. It, therefore, is evident that alcoholic beverages are not needed in the treatment of mental diseases nor in the other ailments that insane persons may have.

THE FUTILITY OF WHISKEY FOR SNAKE BITES

Whiskey, a time honored remedy for snake bites, has probably killed many a victim of snake bite and has never benefited one. I can recall in my youth that when a boy or girl was bitten by a snake that from a half pint to one pint of whiskey was the remedy; a quart was not too much to give a man. It was supposed that in some mysterious way the whiskey was an antidote for poisonous snake venom while it was said that a person who had been bitten by a snake could not be made drunk. A pint of the purest whiskey, containing usually 40 to 50 per cent ethyl alcohol, is enough to kill a boy or girl ten or twelve years old; and a quart drunk on an empty stomach will kill an adult who has not used whiskey more or less regularly and thus formed a tolerance for it. Dr. Joseph Miller expresses the opinion of well informed physicians when he says that "alcohol is contraindicated in snake bite." Alcohol lowers resistance to the toxins of snake venom as it does to the toxins generated by infections of all kinds.

"The hair of the dog is good for the bite" is one superstition that has come down through the ages; but on that reasoning when a man is recovering from an alcoholic debauch (true alcoholic poisoning) there are still doctors who prescribe another drink of whiskey, and the victim after many liquor "parties" becomes a habitue. Coffee, or its active principle caffeine, a true stimulant is the drug to use after a debauch—never whiskey or any other alcoholic beverage.

Many good stories have been told about how people like to have alcohol prescribed for them and there are doctors who think in prescribing alcoholic beverages, they are pleasing the patient. I recall the story told by a country physician whose usefulness, by the way, was destroyed to a great extent by alcoholism. He said that on one occasion three country doctors were consulting in the case of a man who had been so profoundly unconscious that he could not be roused and had not spoken a word for a week. One of the doctors said, "I believe that this man needs a good stiff drink," whereupon the moribund patient aroused and said: "Doc, that sounds reasonable."

The only instance that I ever heard of where

it could be proved that alcohol saved a life was the case of a brilliant inebriated newspaper editor, who said that the reason he was for "booze" was because it saved his life. He said:

"I was in San Francisco and had purchased a ticket on a boat sailing from San Francisco to Portland. I got drunk and missed the boat that in a storm struck a rock and went down, and all on board were lost. If it had not been for booze, I would now be at the bottom of the Pacific Ocean."

ALCOHOLIC BEVERAGES AS TONICS AND FOODS

The idea that beer, wines and whiskey are tonics has been thoroughly exploded. The fact is rarely that physicians prescribe tonics of any kind at this time. It is true that the patient who has learned to like alcoholic beverages will be pleased to have his doctor prescribe one of them for him, but the man who is not accustomed to drinking does not enjoy alcoholic tonics. One way for a person to form an appetite for alcohol that will end in forming the habit is to take beer, wine or whiskey as a tonic. It is the alcohol in those beverages that makes one want the second and the third bottle, and then more of the tonics containing alcohol.

A good story is told of a minister who gave a testimonial to "Peruna," as patent medicine "tonic," which formerly contained 40 per cent alcohol, that was widely used twenty or thirty years ago, which reads about as follows: "I have taken 30 or 40 bottles of Peruna, and it is the best tonic I have ever used. On Sunday mornings I get up feeling bad, physically unable to deliver my weekly sermon, but after taking four or five doses of Peruna (the equivalent of as many drinks of whiskey, I am able to preach with my accustomed vigor."

There is also prevalent the idea with some physicians that alcoholic beverages make the old man forget the infirmities of age. This idea has the same basis as the opinion of a great therapist of half a century ago who took one grain of powdered opium a day; and he urged its use with all old men because he said:

"A small dose of opium smooths the rough corners of the day for a man in his declining years." Small doses of alcohol like small doses of morphine are narcotic in their effect and disturb the function of the liver and other internal organs. While either one or the other may give a temporary but false feeling of exhilaration, they depress in proportion to the amount consumed as the effects wear off, and another and a larger dose is called for. Thus men form the morphine or alcohol habit.

ALCOHOL, A HABIT FORMING DRUG

The physician in prescribing alcohol in any form should not forget that he is giving his trusting patient a habit forming drug. He therefore should be as careful in prescribing alcohol as he is in using morphine, codeine, pantopon, dilaudid and the other nar-

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cotics derived from opium. Indeed there is more danger of the patient forming the alcohol habit than of his becoming an opium habitue; because he knows of the dangers of opium, whereas he is totally ignorant of the fact that alcoholic beverages are habit forming. There are in the United States probably a thousand alcoholic habitues to one who has the opium habit. It should also not be forgotten that 9 out of 10 opium addicts first were victims of the alcohol habit.

Dr. William J. Mayo in a recent address at a staff meeting of the Mayo Clinic stressed the habit forming property of alcohol. He said:

"William Allen White is of the opinion that three out of ten who take alcoholic drinks, like whiskey and brandy, become addicted to the use of liquor; that is, they become steady drinkers. by common parlance, "addicts." Of course, not all of them become what we term drunkards. But they find it nearly impossible to break themselves of the habit and the result may be deterioration and the unhappiness which bear heavily on the family and the family's future."

"The 70 per cent of drinkers who do not become addicts in the sense that we ordinarily understand the term, as well as the addicts, sometimes develop changes in the liver and the vascular and nervous systems later in life, which we have reason to believe are a late result of alcohol.

"The medical man faces the extraordinary advances which day by day make medicine the most fascinating of all the professions or occupations and his responsibility to the people, be-

cause of the nature of his calling, is greater than that of the worker in any other field. Can he, of all men, afford to take a 30 per cent chance of becoming an alcohol addict?"

At a meeting of the American Medical Association in 1896, Dr. T. D. Crothers, the then best known authority on drug addiction, made the unqualified statement that 40 per cent of the doctors of the United States became either alcohol or opium addicts, frequently both, before they were 50 years of age. The medical profession has made great progress in the past 40 years until now morphine addicts are rare in the medical profession; and probably not more than 10 per cent of doctors drink alcoholic beverages to excess. The devastating effect of alcoholism is frequent enough, however, in the medical profession for the physician to be careful in his personal use of this habit forming drug.

BEER

The newspapers have carried a lot of "news" to the effect that beer is a food, and that the working man, the sick man, and the well man, and everybody from childhood to old age, needs the delicious health giving (?) beverage, brewed from malt, that has made Milwaukee famous and which has built up great fortunes for brewers, who have used some of their ill gotten gains to spreading propaganda to induce boys and girls to drink beer. Beer is the "food" that Germany fed on until she grew so great she thought she could conquer the world. The Germany that is persecuting the Jews, repudiating her just debts, renouncing a democracy for a dictatorship, and

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is reverting to the barbarism of their ancestors, the Huns, is still being fed on beer. God pity the United States if our people continue to "fall" for brewery propaganda as many of our best citizens, men and women, have for the past decade. I, for one, protest against the United States adopting the habits and the customs of a people who have proved that they are incapable of governing themselves, either physically or morally.

What is the exact scientific truth about the food properties of beer, called "the working man's bread?" It is true that alcohol in limited quantities may be oxidized in the body, producing heat and energy. One gram of ethel alcohol that is in beer on being metabolized in the body produces seven heat units, i.e., calories. Alcohol in being burned, oxidized, may spare the burning of fats and proteins, but it is never stored in the body as are carbohydrates (sugars and starches) or fats. It, therefore, cannot take the place of other foods except to limited extent. But the alcohol that is in the beer is a true toxin, a narcotic and a depressant, which always interferes with the function of the brain, the liver and other vital organs, depending upon the amount ingested. Therefore, the working man or any other person who drinks beer, thinking it is a food, is just a victim of propaganda because he is taking a habit forming drug that inebriates, and does not cheer as those who profit by its sale would have us believe. Any unprejudiced person who will study the reports of scientific investigators regarding the metabolism and physiological toxic effects of alcohol will find that its toxic effects far overbalances its food value.

It is true that beer will produce fat. One has but to observe the middle aged man or woman who drinks beer to excess to be convinced of that fact. It is not the alcoholic content of beer that produces the fat, except indirectly; it is the malt in the beer and the cheese and the sausage, pretzels, rye bread, butter and other foods that are eaten with beer which produce the fat. If one desires to gain in weight, milk, cream, bread, potatoes, rice, cheese, fat meats, olive oil and other foods that do not intoxicate and inebriate will add to the desired avoirdupois; and when one has gained to the normal weight from good foods, he has not formed a vicious habit that will make him too fat, interfere with his usefulness and lower his resistance to many diseases.

Physicians formerly prescribed whiskey and other alcoholic beverages in the acute infections and in wasting diseases; but since we have learned that the soluble carbohydrates like orange juice, dextrose (corn syrup and corn sugar) and glucose solutions will be metabolized and thus spare the fat and protein of the body without producing the toxic effects of alcohol, their use has been abandoned by most of the better trained men in the medical profession. Dr. Charles Mayo expressed the sentiment of many of the best men in the medical profession when he said in his address as President of the American Medical Association in 1917, "The only legitimate use of alcohol is in the arts and sciences, and its use as a medicine has become restricted because other less menacing drugs and remedial measures may be used instead."

The Use of Dilaudid in Gynecologic Surgery

From the Department of Obstetrics and Gynecology, Washington University, St. Louis, T. K. Brown and H. L. Kleine report on their experience with dilaudid in gynecology with 225 surgical patients (Am. J. Ob. & Gyn., 30:89-92 (July) 1935). In each case, two injection of 1/130 gr. hyoscine were given. The first injection, 1 3/4 hours before operation, was combined with 1/48 to 1/32 gr. dilaudid, the second injection was made one hour before the operation.

In part, the authors write, "As to the analysis of individual cases, it was found that complete analgesia and amnesia were obtained in 83 per cent of the cases, moderately good in 15 per cent and poor in only 2 per cent. The action was more prompt with dilaudid than with morphine, the patient becoming drowsy five to eight minutes after the first injection. The amounts of inhalation anesthesia were definitely decreased and the patients reacted sooner after the operation."

"Dilaudid relieved pain as well as, if not a little better than, morphine and, of course, in much smaller doses. The action was more prompt with dilaudid and the mental faculties did not remain dulled as long afterward. Dilaudid did not depress the patient as much as morphine. The patient was clearer, more cooperative in her nursing care, and better able to feed herself and take fluids. Less inhibition of peristalsis with dilaudid than with morphine in laboratory tests has been reported. We found this to be true clinically, because there was definitely less distention when dilaudid was used in place of morphine. Less catharsis was employed and there were no cases of ileus in the entire series. Vomiting was definitely decreased. We also noticed that the number of post-operative catheterizations was slightly decreased when dilaudid was used."

Postoperatively, a rectal suppository of 1/24 gr. (0.0025 gm.) dilaudid was found to be a very easy and efficient way to administer the drug. Pain was relieved within fifteen to twenty minutes and for considerably longer periods of time than when given hypodermically.

Walter W. Robinson, M.D.

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Operations for Jaundice that is Attributable to Disturbances of the Liver and Biliary Ducts

E. STARR JUDD, M.D., and
M. TISCHER HOERNER, M.D.
Rochester, Minn.

"Jaundice" is the term used to signify the presence of an abnormal amount of bile in the blood and all of the tissues of the body, giving them a characteristic yellow color. At times the condition offers a difficult problem. In order to apply the proper method of treatment it is necessary to determine the true nature of the existing pathologic process. Jaundiced patients claim the interest of both internist and surgeon, for some are best treated by a medical regimen whereas others require surgical intervention. If an operation is decided on, additional judgment will be required to evaluate the benefit to be derived from the procedure and the risk involved. Although each case presents a different problem, and the decision must be made accordingly, much assistance may be obtained by considering the pathologic and physiologic mechanisms of jaundice.

The modern theory of jaundice is founded on the fact that bilirubin is formed from the broken down hemoglobin, through the agency of the reticulo-endothelial system, and is then excreted by the liver. The polygonal cells of the liver are responsible for transfer of the pigment from the vascular capillaries to the biliary channels, and during this process bilirubin is in some way modified. The probable difference between the two types of bilirubin is the feature on which the van den Berg test depends. On the basis of this same theory of the metabolism of bile pigment, McNee made a clinical classification of jaundice giving three types: obstructive, intrahepatic, and hemolytic jaundice.

OBSTRUCTIVE JAUNDICE. Obstructive jaundice is caused by mechanical occlusion of the biliary passages, and in cases in which this occurs, the bilirubin that has passed through the vascular channels and polygonal cells of the liver is reabsorbed by lymph and blood. The van den Bergh reaction in these instances is always direct. The identification and the treatment of various causes of obstructive jaundice will be considered in the following paragraphs.

CHOLEDOCHOLITHIASIS. The symptoms that arise from the presence of stones in the common bile duct or in the hepatic ducts are those indicative of cholecystic disease plus an added factor, jaundice. Of course it is possible for stones to be present in the ducts without ensuing jaundice, and if the symptoms persist following an attack of acute biliary colic, a pathologic condition in the ducts should be suspected. The presence or persistence of jaundice depends on whether the calculus passes through the ampulla into the duodenum or becomes firmly impacted in the duct. A calculus may act as a ball-valve at the lower end of the duct, at times becoming dislodged and floating about in the bile stream. If obstruction is complete, the concentration of serum bilirubin will become fixed at from 20 to 30 mg. per 100 c.c. Usually, if impaction is not constant, the jaundice fluctuates,

for at times it is possible to have an ample flow of bile into the duodenum. Fluctuating jaundice and the presence of pain are the outstanding features that help to distinguish between obstruction attributable to a calculus and that attributable to a neoplasm, although it should be remembered that pain is sometimes an early and persistent accompaniment of neoplastic growth.

Analysis has been made of 393 consecutive cases in which stones were removed from the biliary ducts. In thirty-five of these, one or more calculi were found in the ampulla of Vater, and in fourteen, stones were situated in the hepatic ducts. During this same period, 3103 patients were operated on for stones in the gallbladder.

One of the outstanding facts brought out by this study was that 27.2 per cent of the patients had undergone operations on the biliary tract previously elsewhere. Cholecystostomy was the most common operation, but in some instances, the common bile duct had been explored also. Bearing in mind that stones very rarely reform in the common bile duct after complete removal of calculi from the tract, it is obvious that the majority of the stones found at the second operation either had reformed in the gallbladder and subsequently descended into the common bile duct or had been overlooked at the time of the original operation.

Pain was the most common symptom observed in this series; it was reported by 98 per cent of the patients. In 67.6 per cent of cases, the pain was severe or typically colicky in character; in 21.8 per cent it was of moderate severity, and in 10.6 per cent it was characterized as dull, aching, epigastric distress. Jaundice was also frequently present, and in the majority of cases it was intermittent. In 24 per cent of cases it was persistent from the onset, but varied in intensity. A few patients reported having had jaundice, but none could be detected at the time of our examination. Chills and fever were experienced by 42.7 per cent of the patients, and although usually associated with the attacks of pain and jaundice, there were some instances in which they were the only complaints.

As has been mentioned previously, stones in the ampulla of Vater may produce varying degrees of obstruction; therefore jaundice, chills and fever are more frequently observed, and the associated pain is usually more severe. Of the patients who had stones in the ampulla, pain was the accompaniment in 97.2 per cent, and jaundice in 78.4 per cent. However, the condition failed to produce noticeable jaundice in 21.6 per cent of cases.

Fortunately, stones in the intrahepatic ducts are not common, but the possibility of their presence should be kept in mind in considering the likelihood of recurrence of stones after operation on the gallbladder and ducts. Years may elapse before stones in the intrahepatic ducts are manifested by symptoms, but occasionally the outcome of such a condition is

FRANK W. SMYTHE, M.D.

Practice limited to

Surgery and Radium Therapy

Baptist Hospital Annex

Memphis, Tenn.

the development of serious-suppurative cholangitis.

Supraduodenal choledochostomy gives ready access to the common and hepatic bile ducts, and so rarely any other type of operation is required. Occasionally, when the stone is impacted in the ampulla of Vater, a transduodenal approach may be required. However, calculi in this position usually can be removed by proper manipulation from above. After removal of a stone, it is best to establish free drainage of the tract by placing a tube in the common bile duct. If the amount of reaction from the presence of the stone is slight, it may be sufficient to place a Mayo-Robson catheter in the common bile duct for a short period. However, if prolonged drainage is required, the method of choice is to insert a T-tube, the arms of which extend a short distance above and below the opening already made in the duct. It has been found that such a tube can be left in place indefinitely without danger of subsequent formation of a stricture, and that after removal of the tube, drainage usually ceases within a few hours and the wound heals promptly.

CHOLANGEITIS. Cholangitis is an inflammatory process occurring in and around the walls of the intrahepatic and extrahepatic bile ducts; usually it accompanies another biliary pathologic process, although occasionally it occurs alone. It may vary in degree from slight lymphocytic infiltration of the walls of the ducts to a suppurative process in which the biliary spaces are filled with thick, foul-smelling pus. There is also an obliterative type of cholangitis in which there is an increase of fibrous tissue in the walls of the ducts and subsequent atrophy of either or both of the intrahepatic and extrahepatic biliary channels. At times this condition manifests itself

soon after birth and is thought to be congenital, but in a few cases the condition also has been reported as occurring in adult life.

Because of the infection and the varying degrees of obstruction of the common bile ducts of patients who have cholangitis, prolonged biliary drainage is the best treatment for the pain, chills, fever and jaundice from which many of these patients suffer. For this purpose, the T-tube offers the only certain efficient method by which the multiplicity of poorly drained parietal sacculi in the walls of the biliary channels can be emptied for a sufficient period to permit recovery.

STRICTURE. Benign strictures of the extrahepatic biliary channels are more common than the literature would lead one to believe, for the reports are usually confined to one or two cases in which treatment has been successful. There can be no doubt but that many of these strictures are attributable to injury to the hepatic or biliary ducts during operations on the biliary system. However, in some instances, cholangitis, trauma from impacted biliary calculi, or congenital malformation may lead to formation of stricture when there has been no previous operation. Nevertheless, it is surprising how much mutilation the lumen of these ducts will tolerate without becoming stenosed.

In a study of ninety-three cases of benign stricture, it was found that 94.7 per cent of the patients previously had undergone operations on the biliary tract. Three types of cases were found: (1) those in which painless jaundice developed soon after operation and persisted until further surgical interference had been instituted; (2) those in which bile drained

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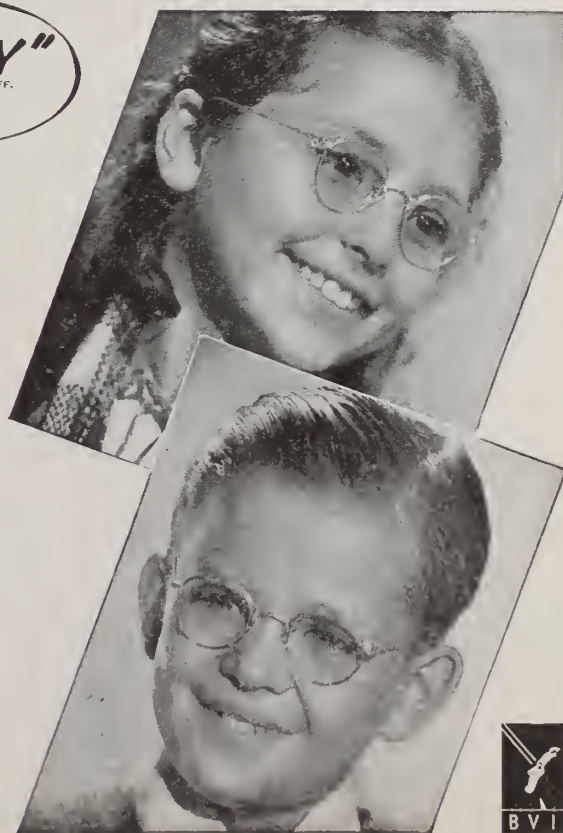
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intermittently from the wound, and jaundice, pain, chills and fever ensued; and (3) those in which no symptoms developed until several months after operation, when jaundice again appeared, accompanied at times by attacks of chills and fever.

The treatment of benign stricture is difficult at best, and at times multiple operations are required before a satisfactory result can be obtained. If external biliary drainage is not complete, it is essential to incise the stricture and to insert a Mayo-Robson catheter or a T-tube into the common bile duct so as to rid the biliary system of as much infection as possible and to improve the patient's general condition, for many times these individuals are unable to tolerate a more extensive procedure. This treatment is rarely curative and in most instances a second operation is necessary. Cholecystenterostomy is either impossible or of little value for the gallbladder usually has been removed, or the stricture is situated at the site of, or above, the juncture of the cystic and common ducts. The plastic operation, consisting of a longitudinal incision closed transversely, likewise rarely yields a lasting result. End-to-end anastomosis of the common duct over a tube is probably the best operation theoretically, and when it is successful the results are excellent. Unfortunately it cannot be employed very often, for in many instances the distal end of the duct cannot be found without assuming undue risk, and at other times the two ends cannot be approximated without unwarranted tension. Furthermore there may be a tendency for the duct to contract at the site of the union. The most practical and successful operation for lesions of this type are hepaticoduodenostomy and choledochoduodenostomy over a tube. The choice of operation depends on the site of the stricture. However, even these operations are not always successful at first, and repeated attempts must be made before the situation is corrected. If none of the aforementioned procedures have been successful, and complete biliary fistula exists, here is still another possibility of reestablishing biliary-intestinal continuity: the fistulous tract may be coned out and anastomosed to the stomach or duodenum. This has given satisfactory results in some of the cases, and sometimes the operation is comparatively easy to perform.

Malignant strictures of the biliary ducts may develop from primary neoplasms of the walls of the ducts themselves or as a result of extension of a lesion from some contiguous organ. The most frequent site of intrinsic carcinoma is the juncture of the common, cystic and hepatic ducts. Of course any one of these ducts may be the site of origin of the lesion, but the structures are so close together that all are soon invaded. The presence of the lesion is usually detected early because of the obstruction that ensues, and because of the persistent jaundice, which is most often of the painless type. However, the character of the pain and the jaundice may not be distinctive and a definite diagnosis is not easily made preoperatively.

The site of the tumor determines the type of operation that can be attempted in each case. Tumors of the hepatic ducts are usually irremovable. Insertion of one limb of a T-tube through the duct, to maintain its patency, may yield palliative relief. Car-

cinoma of the cystic duct necessitates complete removal of this duct and of the gallbladder. If a portion of the common bile duct must be included in this resection, repair can be made over a tube. When the carcinoma invades the tract at the juncture of the common, hepatic, and cystic ducts, the only procedures applicable are resection of the growth and end-to-end anastomosis of the hepatic and common bile ducts, or the performance of hepaticoduodenostomy. If the tumor is in the common duct, below the entrance of the cystic duct, cholecystenterostomy always can be used for both curative and palliative purposes, after an attempt has been made to remove the neoplasm. If the lesion is small, end-to-end anastomosis of the several ends of the common duct may be tried, but the tumors are usually too extensive to permit of this treatment.

CARCINOMA OF THE GALLBLADDER. One of the most interesting observations concerning carcinoma of the gallbladder is the frequency with which gallstones are associated. Reports concerning their incidence vary from 69 per cent to 100 per cent. In a recent study made at The Mayo Clinic it was found that calculi were present in 94 per cent of the cases. Many physicians believe that the local irritation caused by the stones is one of the chief etiologic factors.

The symptoms associated with the condition are not distinctive. A few patients make no complaint until the terminal stage of the disease, but about 27.5 per cent of them give histories of dyspepsia, epigastric distress, weakness, and loss of weight. Others, constituting about 56.5 per cent, have suffered from repeated attacks of colic or pain of varying severity, typical of disease of the gallbladder, perhaps for years, until the last six months before they seek a physician's care. When the type of their distress has changed. The more recent symptoms have been dull, constant pain in the right upper abdominal quadrant, vomiting, weakness, loss of weight, and jaundice. If the ducts have become involved. In a study of sixty-nine cases of carcinoma of the gallbladder, jaundice was found in 65.3 per cent. In 62.2 per cent of these the jaundice was continuous.

If the malignancy is confined to the gallbladder, cholecystectomy is the rational method of treatment. Although it has been advocated by some that a portion of the hepatic substance adjacent to the gallbladder should be removed, together with the organ, we have found that when the disease extends into the substance of the liver, the condition is really not amenable to surgical intervention. The results of operation for carcinoma of the gallbladder as a whole are unsatisfactory, for the majority of the patients die within a year. However, one of us (Judd) has obtained several ten to fifteen year cures, so that the surgeon is justified in giving these individuals the benefit of an exploratory operation.

CARCINOMA OF THE AMPULA OF VATER. Car-

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cinoma of the ampulla of Vater may be classified under malignant strictures of the common bile duct, but the treatment of the condition deserves additional discussion.

Twenty-one patients who had carcinoma of the ampulla of Vater have been submitted to operation at The Mayo Clinic. In treatment of fourteen of these, a purely palliative procedure seemed indicated. Cholecystgastrostomy was performed in twelve cases and cholecystduodenostomy and choledochoduodenostomy in one case each. Four of these patients did not recover from the operation, but the average post-operative life of those who did recover was thirteen and nine-tenths months. In the seven remaining cases in this group, the lesion appeared to be amenable to complete extirpation, consequently, resection of the ampulla of Vater, together with resection of the tumor, was carried out as is shown in table 1.

Four of the five patients who survived the operation were completely relieved of their symptoms and lived for one year and three months, two years and two months, two years and two months, and three years, respectively. One patient could not be traced. When an attempt was made to compare these results with those obtained following palliative operations, it was found that although the operative mortality of resection was higher, the average postoperative life was one year longer.

CARCINOMA OF THE HEAD OF THE PANCREAS. It is generally understood that carcinoma of the head of the pancreas is accompanied by painless jaundice and colic. However, the differentiation is not really as simple as it appears.

When jaundice develops as a result of carcinoma of the head of the pancreas, it is usually persistent and progressive, but in a study of 126 cases in 27 per cent icterus was not discernible. In addition, pain is often an early and prominent symptom. In the same series of cases, it was found that pain occurred in 67.5 per cent. Of these patients 21.1 per cent suffered from colic or pain of marked severity, 31.8 per cent from moderate pain, and 47.1 per cent from dull, epigastric discomfort. Dyspepsia was a rather common complaint; it was observed in 54.8 per cent of the cases, but chills and fever were present in only 17.5 per cent. Terminal features were rapid decline in weight and loss of strength. It would appear from the foregoing that the clinical manifestations of painless jaundice had been misinterpreted. It is our opinion that painless jaundice is not infrequent in the presence of obstruction of the common duct from stone. We also believe that jaundice and pain are even more common in association with carcinoma of the pancreas than in painless jaundice in association with stone in the common duct. Sometimes the current attacks of chills and fever may be explained on the basis of infection. It is often practically impossible to distinguish carcinoma of the pancreas from pancreatitis, even at the time of operation. Consequently, the pain which frequently accompanies pancreatitis further complicates the diagnosis.

Some form of biliary intestinal anastomosis is the best method of treatment for lesions involving the head of the pancreas. Another recent study was made of 158 of these cases. Because of the difficulty en-

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countered in making a definite diagnosis of carcinoma in some instances, the series was divided into two groups, and each was studied separately. The first group is composed of ninety-four cases in which the diagnosis of malignancy was verified at the time of operation, at subsequent postmortem examination, or later by the referring physician. In the other group, which comprised sixty-four cases, the distinction between carcinoma and chronic pancreatitis could not be made with certainty.

Since the immediate factor which endangers the life of these patients is biliary obstruction, some form of biliary-intestinal anastomosis is the operation of choice, for it provides prolonged drainage of the biliary system without loss of bile. The two methods most frequently employed are cholecystgastomy and cholecystduodenostomy. The choice of one or the other of the two procedures was determined solely by the ease with which the stomach or duodenum and the gallbladder could be approximated. Other portions of the intestine were utilized for the anastomosis only when the stomach or duodenum were not readily available. In one case, previous cholecystectomy necessitated some other form of union, and choledochoduodenostomy was performed. (table 2).

The patients enjoyed an average length of life of ten and two-tenths months following these palliative operations in verified cases of malignancy. In the questionable cases in which the patients underwent the same procedures, the average postoperative length of life was eleven and nine-tenths month. Only 4 per cent of those who survived obtained no benefit from surgical operation.

CHOLECYSTITIS. It is difficult to classify the jaundice that occurs in association with acute cholecystitis and less frequently in association with chronic cholecystic disease, for it is usually the result of a combination of circumstances, and is of both the obstructive and the intrahepatic type. It is attributable to related cholangitis and hepatitis. In these cases the jaundice usually leaves as the attack subsides, but occasionally the jaundice persists for a considerable period because of the severity of the hepatitis. If the galactose tolerance test is given it may yield a positive result. In addition, a large stone in the neck of the gallbladder may occlude the common bile duct by pressure, thereby producing prolonged jaundice of a purely obstructive nature, until surgical intervention is undertaken.

The presence of stones in the gallbladder seems to be a factor in the amount of associated pathologic change in the biliary tract. This is probably because the gallbladder which contains stones is subjected to repeated exacerbations of infection, as suggested by Courvoisier, and therefore the adjacent biliary structures have more of an opportunity to become involved in the process. This substantiates the feeling that a gallbladder which contains stones should be removed.

The serious import of jaundice is well known, and an effort should be made to decrease the jaundice before any surgical intervention is undertaken. The aim of the surgical procedure should be to reestablish biliary intestinal continuity by the quickest and safest method. If stones are removed and biliary drainage is established, the gallbladder may be left in situ and a subsequent operation performed, although

many times the risk is no greater if cholecystectomy is performed at once and a second operation is avoided. Should there be rather diffuse pancreatitis without fat necrosis, the best plan will be to remove the gallbladder and establish drainage of the common bile duct by the use of a T-tube. If there is any reason to suspect that there is a malignant condition in the head of the pancreas, cholecystostomy should be performed or anastomosis of the gallbladder to the stomach or duodenum should be made. Although pancreatitis subsides more readily after cholecystectomy, nevertheless biliary drainage will be efficacious if the lesion proves to be benign. Should it be malignant, further palliative relief will be obtainable in some instances, for preservation of the gallbladder in situ will then permit performance of cholecystgastrostomy for diversion of the biliary secretions into the gastrointestinal tract. Associated fat necrosis adds to the risk and seriousness of the condition, but in many instances, cholecystostomy and drainage of the pancreas, region have been helpful. If there is extensive involvement of the pancreas, intervention should be confined to the means of obtaining relief of tension on the pancreatic tissues. The results that have been obtained in a large series of cases seem to justify the plan of operating early in cases of acute cholecystic disease.

INTRAHEPATIC JAUNDICE. Intrahepatic, toxic, or infectious jaundice is dependent on actual injury to the hepatic parenchyma. In these cases, the bilirubin which is normally formed may not only fail to be excreted, but that which has passed through the polygonal cells of the liver may be reabsorbed. Catarrhal jaundice is of this type, as is jaundice attributable to parasitic or spirochetal infection of the liver, certain general systemic diseases, drugs, industrial poisons, or hepatic cirrhosis. The van den Bergh test may give a direct or an indirect reaction, or it may be diphasic.

The symptoms of primary hepatic lesions are not distinctive. In a study of miscellaneous cases of this type, jaundice was constant and of relatively long duration in 83.8 per cent. Colicky or severe pain was

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present in 6.3 per cent of the cases, moderate pain in 10.4 per cent, and dull epigastric discomfort in 25 per cent. However, in a majority of the cases (58.3 per cent) the jaundice was of the painless variety. Chills and fever were not uncommon in this group of cases and many of the individuals complained of minor gastrointestinal disturbances. While these features of the disease and a secondary history concerning a recent acute illness, the assimilation of drugs, and epidemic jaundice are of great aid, the diagnosis is still difficult to make in some instances.

No laboratory test has been devised that will yield a conclusive diagnosis, but there are several that provide important collaborative data. The absence of urobilin in the urine is of diagnostic importance if the common bile duct is completely obstructed, but the test is of little value in distinguishing between intrahepatic jaundice and lesions producing partial obstruction of the common bile duct.

Mancke and Epstein emphasized the results obtained by study of the cholesterol and cholesterol esters in the blood of jaundiced patients. In cases of obstructive jaundice, hypercholesteremia is generally found and roughly parallels the degree of bilirubinemia. However, when cholesterol esters are determined, their concentration is usually within normal limits. Diametrically opposite results are obtained in cases of intrahepatic jaundice.

The galactose tolerance test is also of some value. It is based on the fact that the ability of the injured liver to utilize galactose is diminished; consequently this sugar is excreted in the urine in abnormal amounts. However, failure of the test to reveal an

abnormal concentration of the sugar does not always exclude the possibility of the presence of intrahepatic jaundice, for this may be the outcome of the test when the hepatic lesion is improving or when a great amount of hepatic parenchyma has been regenerated. On the other hand, the test reveals an excessive amount of galactose in the urine in association with the late stages of biliary obstruction.

Evaluation of the bilirubin in the blood stream is another diagnostic aid of considerable value. If the bile is flowing freely into the duodenum, a high concentration of serum bilirubin in the blood is strong evidence of the presence of an intrahepatic lesion.

Duodenal intubation will help to settle the question as to whether there is a flow of bile into the duodenum. It therefore answers an important question, for it signifies the degree of obstruction or hepatic injury. An analysis of a group of cases in which this test was used is shown in table 3.

It can be seen that when intrahepatic jaundice was present, the ducts were patent in 100 per cent of the cases studied. If stones were responsible for the mechanical obstruction as in the next series of cases, there was evidence of patency in a high percentage of cases. However, when the obstruction was caused by a malignant lesion, the situation was in almost all instances the opposite of this. In cases in which there was benign stricture, patency took a middle position. As was stated before, these findings are not diagnostic in themselves, but when added to the other available data, they are of diagnostic importance, as well as of value in suggesting the proper

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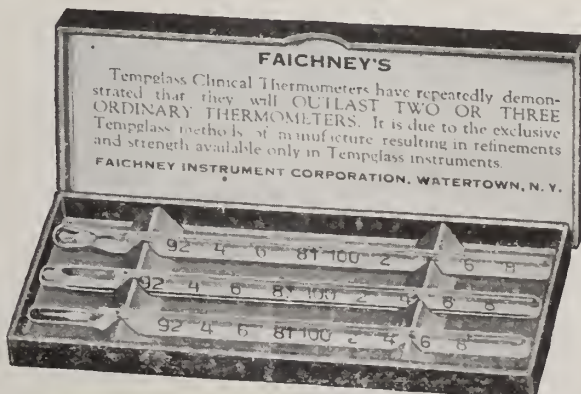
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method of treatment.

The treatment of intrahepatic jaundice is chiefly medical. Intravenous injection of glucose, administration of a high carbohydrate diet, and elimination of all drugs that might be responsible for the disease should be mentioned in this regard.

However, surgical drainage of the biliary ducts has been employed with rather remarkable results in a few instances in which patients have had intrahepatic jaundice of exceptional severity, or in which jaundice has persisted for a long period in spite of the best of medical treatment. Haberer has expressed the belief that cholecystostomy is the best operation for the condition, and he reported seventeen cases in which treatment was by this method; fifteen of the patients recovered. Hortolomei and Pavel made exploration for carcinoma of the head of the pancreas and found that they were dealing with intrahepatic jaundice. They then performed cholecystoduodenostomy and the patient made a complete recovery. As is shown in table 4, a number of patients who had suffered from intrahepatic jaundice for many months, without signs of improvement have been subjected to operation at the clinic.

The condition of some of these individuals was such that establishment of an external biliary fistula was all that seemed to be justified. However, we believe that if the biliary drainage can be diverted into the gastrointestinal tract the patients recovery will be much more rapid. For this purpose we favor a biliary-intestinal anastomosis, such as a cholecystgastrostomy. In our opinion, the additional amount of bile entering the intestine is a potent influence in the outcome in the case, probably because of the cholagogue and digestive action of bile.

In addition to these procedures, omentopexy by the Talma-Morison method, or splenectomy, may be indicated in certain cases of portal cirrhosis. However, such operations are primarily directed toward relief of the vascular lesions of cirrhosis.

HEMOLYTIC JAUNDICE. In cases of hemolytic jaundice there is an abnormally large production of bilirubin, or of its precursors, within the body. Since the excessive amount of bile pigment in the circulation has not passed through the polygonal cells of the liver, a delayed or indirect van den Bergh reaction is always obtained. The chief characteristics of this type of jaundice are absence of bile pigment in the urine, presence of urobilin in the urine and of ample bile in the stools, increased fragility of erythrocytes, and often, splenomegaly. Splenectomy is often performed with good results on patients of this group.

CONSTITUTIONAL HEPATIC DYSFUNCTION. There is another form of jaundice which recently has received considerable attention and may constitute a fourth type of the disease. "Constitutional hepatic dysfunction" is a term meant to imply an in-born deficiency of hepatic cells, chiefly in respect to their excretory function, or in other words, the excretory threshold of the liver for bilirubin is higher than usual. Jaundice, in these cases, may be evident in the newly born, not detected until later in life, or latent. At times an elevated value for serum bilirubin may be the only demonstrable finding. Since the bile pigment circulating in the blood has not

passed through the polygonal cells of the liver, as it does in hemolytic jaundice, the van den Bergh reaction is indirect. There is no mechanical obstruction to excretion of bile, consequently the urine contains urobilin but no bilirubin.

The true incidence of the disease is not known, for many times it passes unrecognized. However, while investigating the disease at The Mayo Clinic, Comfort found sixty cases during a period of two years. He reported the onset of the condition to be insidious, the jaundice having remained unrecognized in most of the cases for a considerable period, although in 60 per cent of them there was a visible yellow tinge. So far the highest value for serum bilirubin has been 7.0 mg. per 100 c.c. Emotional stress and attacks of migraine seem to increase the depth of the icterus, and although the color of the skin frequently clears, the change is not permanent. It is essential to ascertain in the absence of enlargement of the spleen or liver, and to learn whether there is any abnormality of the erythrocytes before the diagnosis can be made.

One of the most important features of the condition is the fact that it is associated with disease of the gallbladder or biliary ducts in 30 per cent of the cases. Consequently, a patient's complaint of sallowness or biliousness should not be taken too lightly, for although this type of hepatic dysfunction is compatible with health, when it is in evidence it should be remembered that some form of disease of the gallbladder is prone to develop in the future.

COMMENT. Although the differential diagnosis between intrahepatic and obstructive jaundice is often difficult, methods are available which help to distinguish between those two types of jaundice. However, no one is infallible in the diagnosis of lesions responsible for mechanical obstruction of the biliary ducts. Too much emphasis should not be placed on the presenting symptoms, for pain as well as jaundice will be found in a high percentage of malignant conditions, which benign lesions are likely to be associated with painless jaundice. Consequently, since surgical intervention has been so beneficial in many instances exploratory operation is warranted if there is a reasonable chance of the patient withstanding it.

Selection of the proper time for the operation is one of the chief reasons for the decrease in surgical mortality. A short period of observation usually will determine this point, while the patients are in the hospital being built-up and placed in the best possible condition for the operation. The chief surgical

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complications to be kept in mind are hemorrhage, hepatic insufficiency, and renal insufficiency. The best method of protecting the patient against hemorrhage during and after operation is to give one or more transfusions of whole or citrated blood. Calcium chloride also has been given intravenously to increase coagulability of the blood. Since an injured liver can utilize carbohydrates more readily than it can utilize any other nutrient substance, large quantities of 10 per cent solution of glucose are administered intravenously. These measures are further supplemented by prescribing a diet high in carbohydrates. The increased intake of fluid just described serves a double purpose in the presence of jaundice, for it is also excellent treatment for co-existing toxic nephrosis. This method of treatment should be continued throughout convalescence.

SUMMARY. Difficulties are encountered in differential diagnosis of jaundice and in evaluation of symptoms and laboratory aids. The results of surgical operation justify undertaking exploration in cases of obstructive jaundice if the patients can be prepared to withstand the procedure. Although intrahepatic jaundice is primarily a medical problem, there are cases in which operation is indicated. In spite of the fact that few cases of constitutional hepatic dysfunction have been recognized, it is not an uncommon condition. It is important because of its relationship to future disease of the biliary tract. Selection of the proper time of operation, and institution of special preoperative and postoperative care have decreased surgical mortality in these cases.

TABLE 3

Summary of 290 cases in which duodenal intubation was employed to determine whether or not the biliary ducts were patent

	Patent		Partially patent		Evidence of patency		Not patent	
	Cases	Per cent	Cases	Per cent	Cases	Per cent	Cases	Per cent
Intrahepatic jaundice	50	79.4	13	20.6	63	100.0	0	0.0
Stone in common duct	27	27.0	65	65.0	92	92.0	8	8.0
Stricture of common duct	3	6.0	34	67.0	37	73.0	14	27.0
Carcinoma of gallbladder and ducts	0	0.0	6	25.0	6	25.0	18	75.0
Carcinoma of head of pancreas	1	1.9	14	27.0	15	28.9	37	71.1

TABLE 4

Operations employed at The Mayo Clinic on patients who had long-standing intrahepatic jaundice, and who had not shown signs of improvement

Type of operation	Cases
Cholecystgastrostomy	8
Cholecystostomy	5
Cholecystostomy and choledochostomy	6
Choledochostomy	4
Choledochoduodenostomy	1
Cholecystduodenostomy	1
Cholecystostomy and Talma-Morison operation	2
Choledochostomy and Talma-Morison operation	1
Talma-Morison operation	8
TOTAL	36

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TABLE 1

Radical operations for carcinoma of the ampulla of Vater

Operation	Cases
Resection, transduodenal	2
Resection, transduodenal and choledochotomy	2
Resection, transduodenal and choledochoduodenostomy	1
Resection, transduodenal, choledochoduodenostomy and cholecystostomy	1
Resection, transduodenal and cholecystduodenostomy	1
TOTAL	7

TABLE 2

Palliative operations for carcinoma of the head of the pancreas

Type of operation	Carcinoma of head of pancreas		Total
	verified	questionable	
Cholecystgastrostomy	66	56	122
Cholecystduodenostomy	15	6	21
Cholecystjejunostomy	7	2	9
Cholecystcolostomy	4	0	4
Choledochoduodenostomy	1	0	1
Cholecystgastrostomy, reconstruct*	1	0	1
TOTAL	94	64	158

*Cholecystgastrostomy performed previously elsewhere.

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The Manual Correction of Pathological Presentations During Labor

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The broadening of indications for Cesarean Section, the refinement of the technic of forceps delivery and the popularization of version as a means of delivery in recent years, have all served to divert attention from the use of the hands to convert unfavorable presentations of the fetus into such as tend toward nontraumatic delivery. This is unfortunate since the hand of the skilled obstetrician is so definitely more intelligent and capable of involved motions when used directly than when it manipulates an insensate instrument as, for example, the obstetric forceps.

With the executions of rotation of the persistently posterior occiput, little or no attention has been paid to purely manual maneuvers since the classic work of Baudeloque in the conversion of face into vertex presentations, except that Baudeloque's maneuvers have been advocated and improved by Schatz in 1872, Thorn in 1893 and De Lee. The simplicity of the procedures required, the lessening of injury to the maternal soft tissues as well as to the fetus, and the ease with which an apparently hopelessly impacted presenting part can be converted into a well flexed and easily deliverable one, would seem to make a revival and an extension of these methods, advantageous.

Three factors are necessary before any manual maneuvers should be undertaken:

First: deep surgical anaesthesia, preferably obtained by the use of ether, since the relaxation obtained from anaesthesia by nitrous oxide oxygen, ethylene, or avertin is not sufficient to permit free movement of the fetal body in utero.

Second: the securing of ample space in the vagina for the free movement of the hand and wrist. Such condition is often present in multiparae, but when it is not so and in primiparae, a generous medio-lateral episiotomy incision is essential.

Third: there should be provision for a fairly high Trendelenberg position which is sometimes an absolute requisite for the dislodging of an impacted head.

If, in addition, there is available apparatus for the injection of tincture of green soap into the uterus as described by Piper, the operative procedure is rendered even simpler. Piper's plan consists in introducing a large rubber catheter into the uterus, past the presenting part, and then, by means of a syringe, introducing green soap in an amount sufficient to replace some of the liquor amni, and to thoroughly lubricate the interior of the uterus.

There has been much written of the impaction of the abnormally presenting fetal part in the pelvis and this fixation is given as one of the indications for craniotomy. of Cesarean section, if the infant be living.

When the three conditions of deep anaesthesia, ample vaginal space and Trendelenberg position have been attained, it may safely be said that im-

paction is seldom or indeed, never an obstacle to manual correction and subsequent forceps delivery.

It must be clearly understood that for any of the proposed methods to be successful, there must be a reasonable proportion between fetus and pelvis and that they are not advised or permissible in advanced degrees of pelvic contraction or when the fetus is disproportionately large.

They are of great value when no marked disproportion exists and where the dystocia is the result of malpresentation, even when the error has been unrecognized during the many hours of labor.

Naturally, before any such measures are available, the membranes must have been ruptured, and the cervix effaced and fully dilated. In most instances, the presenting part has passed through the cervix, which plays no part in the dystocia.

The special malpresentations wherein manual correction seems most advantageous are:

Face, with the chin in the hollow of the sacrum.
Brow, Deep transverse arrest.
Shoulder with or without prolapse of an arm.
And, of course, persistent posterior positions of the occiput.

In Face Presentations, when the child has rotated to the hollow of the sacrum, spontaneous delivery or indeed, forceps extraction without preliminary rotation is impossible, because further extension can not occur and hence the combined diameter of head and thorax must pass the pelvic outlet, which is obviously hopeless.

Baudeloque, in the early years of the 19th Century, developed a manual maneuver for the conversion of such presentations in that of the vertex, which plan is still available in small headed children, but which is extremely difficult when the head is large and when a huge caput has formed as is so common in these cases. The maneuver which the writer has found highly satisfactory, is to manually rotate the fetal body, disengaging the chin from the niche in the hollow of the sacrum and, bringing it around the pelvis until it comes to rest under the symphysis.

The patient being deeply anaesthetized, in Trendelenberg position, the operator assumes a position in which the wrist of the operative hand is level or in moderate extension, that is, the arm must be below that of the pelvis.

One cannot successfully carry out any manual maneuver involving rotation unless the wrist is extended at the beginning of the operation.

A generous meso-lateral episiotomy incision is

DR. E. C. ELLETT

DR. R. O. RYCHENER

Ophthalmology

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then made and the well lubricated gloved hand is introduced into the vagina, palm up. The first and second fingers are slipped gently past the head, which is usually somewhat disengaged from its impacted position during the process.

The fingers seek the anterior axilla and, this found, the head is ignored altogether, simply resting on the palm of the hand, very lightly held by the thumb. Fig. 1.

Next, firm and steady pressure is made on the axilla, freeing the shoulder from its forced position in the lower uterine segment and slowly turning it lateral either from the right to left or vice versa, depending on the position of the child in relation to the median line. The shorter rotation being always chosen.

The hand of an assistant, on the abdomen, aiding the rotation externally is of great service in facilitating this act and slowly and steadily, the hand will move from supination to almost complete pronation the head moving with the rotating body of the infant until the shoulder has completed about a half circle (180°) and the chin has slipped anteriorly under the symphysis. The hand is then withdrawn, and a simple forceps extraction completes the delivery. (Fig. 2).

After a little practice it is astonishing how simple this rotation becomes, and how by its means, a formidable complication revolves itself into an easy and nontraumatic finale.

Brow presentations give rise to difficulty, first because of the imperfection of molding and second because flexion is always incomplete.

The conversion of a brow, into a vertex position by purely manual means is quite simple, even though preliminary examination reveals an apparently absolutely fixed head.

The patient should be placed in an exaggerated Trendelenberg position after which it will be found that the head is easily dislodged from its position, and by pressure with the finger upon the forehead, followed by downward taxis of the occiput, the hand being slipped over this region until the fingers make pressure upon the occiput protuberance, flexion occurs almost at once, after which the forceps are applied to a flexed head without further manipulation.

Deep Transverse arrest, where the head, lying midway between flexion and extension, occupies the pelvic brim, the sagittal suture directly transverse, is a serious obstacle to labor and one which taxes the resources of the obstetrician to effect delivery without serious trauma to the maternal soft tissue and with grave danger of fetal injury from skull compression and the subsequent intracranial hemorrhage. The invention of the Kielland and the Barton forceps has been of inestimable benefit in improving the results of delivery in this type of abnormality but there remains always a certain type of cases in which the application of either of these forceps is difficult and dangerous.

When the head lies in anterior asynclitism, the anterior parietal bone tightly pressed against the symphysis, it is sometimes practically impossible to insert a forceps blade, even the slender Kielland forceps, between skull and symphysis. Depressed fracture of the parietal bone and wide lacerations of the internal bladder too often result from such

attempts. The original technic of Kielland, wherein the anterior blade is inserted with its concavity upward, until the head is passed, when the blade is rotated within the uterine cavity is repugnant to many operators, including the writer, who, fears laceration of the lower uterine segment.

It is far better practice to enter the anterior forceps blade over the face of the child and then gently slide it over the face to a position of true cephalic application but here, again, there is sometimes no space for slipping the forceps around without cutting and lacerating the lateral fascia of the pelvis.

The plan here proposed involves a simultaneous use of one blade of the Kielland forceps as a lever, with the hand assisting the flexion and partial rotation of the head.

With the patient deeply anesthetized, and in moderate Trendelenberg posture, a wide mesio-lateral episiotomy is made on the side toward which the occiput lies.

The posterior blade of the Kielland forceps is then introduced behind the head, the major portion of the blade behind the ear if possible. The handle of the blade is now permitted to deep into the cleft of the episiotomy incision, which has previously been protected against too great pressure by a thick pad of gauze. (Fig. 3). The hand of the operator which corresponds in position to the face of the infant is now inserted into the vagina and the forehead sought with the first two fingers. Now simultaneous pressure is made, downward and outward on the forceps handle, and upward and backward with the finger on the forehead. As is readily seen, this combined pressure acts to form the occiput forward and downward while the face is thrust upward and backward. Considerable force must sometimes be used to dislodge the parietal bone from behind the symphysis, but usually in a few moments the head will be felt to slip free, adequate flexion taking place and the sagittal suture moving into the oblique diameter of the pelvis. (Fig. 4). The hand is now withdrawn, the original

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forceps blade readjusted to a correct cephalic grasp, the anterior blade applied as in any anterior position of the occiput and delivery completed. This procedure requires a little practice for its correct performance, but once learned, it is a most satisfactory addition to the armamentum of the obstetrician.

Shoulder Presentations—with or without prolapse of an arm constitutes one of the classical indications for version and extraction, but is also true that during the performance of this turning, there occur far too many ruptures of the uterus, especially in neglected cases.

In a number of cases coming under the observation of the writer replacement of the prolapsed arm and the conversion of the shoulder into a cephalic presentation has been perfectly feasible, a simple forceps operation completing the delivery in each instance.

The details of the procedure are as follows:

Deep surgical anesthesia, generous mesiolateral episiotomy, moderate Trendelenberg position are essential. After preparation of the patient the prolapsed arm is carefully washed with tincture green soap and water, dried, and then painted with iodine, or any preferred sterilizing agent. The finger is placed upon the cubital fossae, the arm is gently flexed and then by a circular motion, is reintroduced into the vagina, the elbow sweeping over the posterior wall of the perineum. (Fig. 7). The arm is then carefully flexed across the chest of the infant, and both feet are sought. Gentle traction is made upon the feet, which are usually held in a sling of bandage, so that the hand does not occupy the vagina. While the traction continues, the fingers of the unused hand enter

the vagina and push gently against the thorax of the child. This combined traction and upward push serve to dislodge the thorax of the child from the lower uterine segment and to correct the sharp angulation of the neck. (Fig 8). The chest slips upward and the head drops into the pelvic brim. The feet are now released, and carefully again pushed up into the fundus uteri, the knee fixed, and it will be at once apparent that the shoulder has been converted into a cephalic presentation.

Should the head have dropped into a position of extension, it is further corrected by manipulation until the occiput is forward and flexed, after which forceps delivery is done.

Posterior Occiput: There is still discussion, in obstetric circles, as to whether posterior position of the flexed occiput will correct themselves, given time enough, or whether interference is indicated. In this controversy, this paper has no part, it being generally admitted that there are a number of cases in which the occiput rotates into the hollow of the sacrum, progress ceases and labor becomes obstructed.

Three methods are in common use in the management of persistent posterior occiput, forceps rotation, either the old Scanzoni maneuver, or the modification advised by Brill; version or manual rotation of the occiput to an anterior position with subsequent forceps delivery.

Manual rotation is a widely practised procedure, and when properly performed is the simplest, and least traumatic method of dealing with the situation. The technic practiced by the writer is a modification of the Pomeroy technic and is as follows: The condition of anesthesia, vaginal room, etc. being fulfilled,

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that hand whose palmar surface will slip over the occiput is introduced into the vagina.

The first and second fingers slip past the head and seek the anterior axilla, the head lying loosely in the palm of the hand, either with or without an assistant making abdominal pressure, the shoulder of the child is firmly pushed around the anterior aspect of the pelvis until the body of the child has been rotated almost 180°. The occiput becomes dislodged from under the promontory of the sacrum and turns with the body into an anterior position. This accomplished, the hand is withdrawn, forceps applied with the head in an anterior position and delivery follows.

Two critical questions suggest themselves immediately, in opposition to the manual maneuver here outlined.

First: Is there not an increased danger of sepsis from such extensive manipulation and

Second: Why does not a simple version and extraction serve all of the indications here given, with less difficulty and less loss of time.

The first question may be answered by the statement that with surgically clean hands and a surgically clean patient, there is little to be feared from intravaginal and intrauterine manipulation. If in addition, this can be carried out with a minimum of trauma, as is the case, infection need not be any bar to its performance.

As regards version, it is true that this time proven procedure is of the greatest value in many, many instances. However, there remains a considerable number of parturient women, in whom the membranes have long been ruptured and the uterine wall is applied closely to the irregular contour of the child.

The uterine musculature in these cases is in more or less tonic contraction and often will not tolerate the presence of the hand introduced deeply to the fundus without undergoing rupture.

Again, even if the hand may be introduced to the fundus, the lateral distention of the uterus required to turn the child through a transverse to a breech position is often too great for the more or less tetanically contracted muscle and complete or partial rupture results.

Finally, even though version be successful, the extraction of the head, often enlarged by a wide and irregular caput, offers difficulties which lead to delay and to possible serious injury to the child.

The methods of arranging and manipulating abnormal presentations into those of flexion and anterior position of the occiput, by manual means, is recommended as being easy, simple, and productive of the least possible trauma, in the types of cases here described.

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Neurasthenia: Its Relations to Drug and Liquor Addictions

FRANK FENWICK YOUNG, M.D.

Physician-in-Chief Fenwick Sanitarium
Covington, La.

Neurasthenia heads the list of true Neuroses and it usually means nerve weakness or nerve prostration and is considered a functional disorder of the nervous system. It is most prevalent in America, today and before the late World War was considered unknown in Europe, the standard authorities of that country calling it the great American disease.

It is rarely recognized in its early stages and only comes under observation when it has reached such a profound degree of nervous instability as to render the sufferer miserable and unfit for the ordinary occupations of life.

This neurosis occurs primarily and principally in early adult life, between the ages of eighteen and thirty, although it does occur at any age.

It is a condition in which the nerve and brain cells are in a state of pathological fatigue and unable for any length of time to perform their functions with any degree of unison and harmony.

We know that in the physiological fatigue of the brain and the spinal nerve cells there is a shrinkage of the protoplasm and a contraction of the nucleus and, if the degree of fatigue be great, the latter sometimes even lose their shape entirely and become irregular in form—in neurasthenia we have a continuation of this condition. In other words, it is the

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normal condition of the nerve cells in a chronic neurasthenic and, as such, we find the brain cells are incapable of properly receiving impressions, incapable of properly holding or elaborating impressions, and consequently incapable of properly sending expressions. As a result, ideation and cerebration are relatively inefficient and sometimes totally wrong.

If this is the condition of the higher cerebral centers, it is easy to surmise the deplorable state of the lower centers that control the various functions of the body. They have suffered in like manner and are besides more or less dependent upon the higher centers for the proper performance of their functions—as already stated the fore-going is a description of the brain cells as existing in profoundly neurasthenic brains.

Unfortunately and only too true, Neurasthenia exists in various degrees—it usually requires quite a length of time for the cells to reach that profound degree of exhaustion just described. Understanding the process by which this condition is brought about it can readily be seen why it requires the length of time it does to develop. Every normal individual, with a normal brain and nervous system, has systematically, during his previous life experience, accumulated a certain amount of nerve energy—a reserve or surplus amount, which has been especially stored away in early maturity in the Central nervous system and this is termed the “normal reserve.” The purpose of this reserve that nature, in its perfection, has seen fit to supply, is manifest.

It must be remembered here that the brain

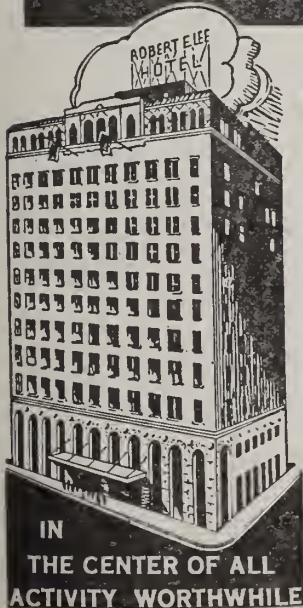
nourishes and manufactures nerve force or nerve energy during rest and sleep only and in persons leading a regular life the amount of energy manufactured daily (every twenty-four hours) is usually sufficient to meet the demands of the ordinary day's routine. It converts nerve energy continually during the working hours, consequently there is a certain amount of nerve energy manufactured as well as converted every twenty-four hours. Energy is never lost or consumed but always converted into something else, in other words, energy always produces.

In times of excessive brain work, great sorrow or shock or of any severe strain, where there is a greater conversion than is the amount of energy produced, it is the purpose of the “normal reserve” to supply the deficiency and for cerebration and ideation to go on to a successful conclusion without any interruption or exhaustion.

It is clear that, if the ratio between the daily production and the daily conversion or consumption is entirely lost and that the latter, as a daily routine, exceeds the former, sooner or later, the “normal reserve” will be entirely exhausted, a thing of the past and no longer to be reckoned with. When this happens, we have the daily conversion or consumption far in excess of production with no reserve whatever to supply the deficiency. Then as a result what have you? Why, inevitably a daily cellular exhaustion with an arrest of greatly deficient ideation and cerebration and with resulting instability and failure. In other words the entire mass, of cerebral cells, goes to pieces in a vain and fruitless endeavor to contin-

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Picture to yourself this condition and apply to such cases as you have seen time and time again. Could anything be more clear? The individual feels the exhaustion and deficiencies, is more or less cognizant of the cerebral weakness, the nervous unrest, the morbid fears, the nervous instability with a long chain of symptoms following—surely this a familiar picture to many physicians, who will remember many cases, especially among young men, who have appealed to them for help with many morbid ideas and fears, feeling that they are unstable somewhere. It is in these cases, that we find the many forms of sex perversions, homo-sexuals, masturbations to excess and many other abnormalities always associated with sex conflicts.

The lack of power of concentration is one of the earliest symptoms of Neurasthenia. The extreme fatigue, out of all proportion to the amount of exertion, is also another early symptom. The preceptiveness and unrest of the nervous system, coupled with the irritability and lack of confidence occur as later manifestation.

WHAT CAUSES NERVOUS EXHAUSTION

As to the causes of this condition, they are very evident:—The conversion or consumption of a greater amount of nerve energy than normal, and the failure of a production of an equal amount with a final overdraft on the "normal reserve."

I maintain that no legitimate or fair amount of excessive brain work will alone bring about that condition. No matter how severe or arduous it may seem, the brain is capable of a great and vast amount of work and fatigue—this is almost limitless provided there is sufficient rest and sleep, including distraction to allow replenishment and recuperation. Under these conditions I say no amount of work can break down or exhaust a normal and hardy nervous system.

Twelve or fourteen hours of severe and arduous brain work, in connection with eight or ten hours of good, normal, refreshing rest and sleep is fully compatible with a strong vigorous and perfectly stable nervous system. No amount of work under these conditions can wreck it. I may differ with others, in this view, but from years of study and observation, I firmly believe that I am correct.

On the other hand, take twelve or fourteen hours of hard and arduous brain work and instead of the appropriate amount of rest, sleep and recreation, let the greater part of that time be taken up in excesses of any kind and the nerve cells will then be deprived of the necessary amount of rest and recuperation that is essential, and time, soon will tell the tale—a break-down and exhaustion of the Central nervous system is sure to follow.

Neurasthenic heredity, if such a term can be used, plays an important part in the production of neurasthenia. Children of neurotic parents, children of alcoholic and drug addicted parents nearly always inherit a weakened nervous system. This state or condition, however, when recognized, can be corrected by systematic hardening through certain methods in handling the growing child. But, if, as is ordinary in the majority of children, of such parentage, this is not done and they grow up to maturity, with their inherited weakness of the nervous system, then what

is the result? In the first struggle, when they reach adult life, they go down to exhaustion and defeat and join the vast army of neurasthenics as a "monument" to their ancestors. The percentage of those, who are scientifically treated and restored to their former condition of usefulness and health is very small indeed and this is because they are either not recognized and given proper treatment or the treatment is not properly carried out.

Unfortunately many physicians do not recognize neurasthenia, in all of its stages and phases, and fewer are they, who restore such patients back to health because the treatment must be carried out over a long period of time for success and here through no fault of the attending physician, the patient becomes discouraged in not being cured as quickly as he thinks he should be and often leaves a competent physician to fall into the hands of a quack.

Many men today, whom I can point out as failures in the world, men who have all the necessary qualities of training and education and all else that goes to make successful men but never-the-less, who are failures and never attain the position, which their qualities entitle them to, are so, for the sole and simple reason that they are neurotic or neuro-psychopaths—they seem incapable of **concentration and the stability** necessary to achieve success.

THE ROLE OF ALCOHOL AND NARCOTICS

Neurasthenia is a direct cause of alcoholism, as well as of the various and many forms of drug addictions. The nervous unrest and the nervous teasings that constantly haunt such an individual, that condition of exhaustion of the whole cerebral cellular mass, all call for relief and the vast majority of such patients seek relief, of their own accord, and during their greatest suffering of nerve teasing and unrest, as there is always marked depression with it, they inevitably resort to a stimulant of some kind—usually some form of alcohol at first.

What is the result? The temporary stimulation is rapidly followed by benumbing or paralyzing effects, so to speak of the entire nervous system and that

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brings them relief and then they go on from day to day seeking continuous stimulation, which is always followed temporarily by relief, not indeed because they want it, not because they desire it, but because they crave relief from a something that they cannot explain—something that worries them in some way, somewhere and everywhere. In other words these unfortunate sufferers seek relief from their tormenting nerve teasings or nerve unrest, which is the result of the exhaustion of the brain cells. Thus they go on, seeking by these artificial means the "fugitive" relief until at last they become addicted to whatever stimulant they have chosen, be it liquor or be it some form of drugs while both give relief it must be remembered that they both increase the pathology, for the relief of which they were used.

From the foregoing it can be clearly seen that the pathway, from neurasthenia to addiction, of some kind, is straight ahead and from my observation, I have found that by far the largest percentage of the many various addictions reach their sphere through the neurasthenia route, the addiction being merely a symptom or condition dependent upon the neurasthenia, or some other disturbance or disease of the nervous system.

CURATIVE EFFORTS

In curing these victims of the addiction, whether drugs or liquor, you must always bear in mind that the cause of the addiction must be cured or removed, if it is desired that the addict remain well. In the instance of neurasthenia, once the patient is off of liquor or drugs, the neurasthenia shows up outstandingly and unless it is properly handled and treated

the patient is certain to relapse and again become addicted to his former curse, be it drugs or liquor—in other words, we have to meet a double condition with such patients: **FIRST**, relieve and correct the addiction and **SECONDLY**, relieve or cure the patient of the neurasthenia, otherwise the relapse is sure to occur.

The treatment and successful management, of these victims, is by no means an easy task. The **FIRST** essential is the absolute and perfect knowledge of the disease—any physician, who looks upon neurasthenia as a lack of "will power" or as "akin" to hysteria, because it is considered a "functional disorder," should not, by any means, attempt to treat neurasthenic individuals. This should be left to the Neuro-psychiatrist, who know and understand thoroughly the situation and appreciate the exhaustion that exists in the cells of the nervous system.

To reestablish the daily ratio or the proper amount of nerve energy, to meet the demand of ordinary circumstances, and in time, to replenish, in part or in full, the original "normal reserve," should be our aim in treating every case of neurasthenia. But to reestablish these conditions anew, to give back to that individual perfect self control and poise and absolute stability, is no easy task and on the part of the physician, it requires time, patience, and a knowledge that comes only with the experience of handling these patients and the ability to retain the patient's confidence—unless this latter is accomplished the patient soon becomes discouraged and through the advice of some friend consults someone else.

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to repair. Consequently in building up and repairing exhausted brain cells, the length of time required, is only in keeping with a well known physiological law. I believe that there are more neurasthenics, who go unrecognized and untreated, in America, than those afflicted with any other disease and it is time that the medical profession give this neurosis more attention. As soon as a physician recognizes his patient, as a neurasthenic, he should, at once, advise him to enter some institution worth while, for the treatment of such disorders, because these cases can only be properly treated and cured in such an institution and they are always institutional cases from the start. Many physicians can look back and see a number of such patients where they tried their hardest and best to benefit but for whom they get no results—they would become desperate and the patient likewise—not their fault, for the best physicians, in the world, could not properly handle and treat these cases successfully at their homes. I repeat that, as soon as such a patient is recognized as a neurasthenic he should be sent to a sanitarium up to the standard as quickly as possible in order that he may be cured and thus prevented from becoming an addict of some kind, which in time would almost surely happen.

We, therefore, find that neurasthenia and drug and liquor addictions are indeed closely allied.

Neurasthenic patients, of all persons, need the advice of physicians badly. They easily become the prey and rich harvest of quacks, whose ads often find their way, even into medical journals. The physician in referring his patient to a sanitarium should always make sure of the standard of the institution.

Here allow me to transgress a little, from our subject, and remark that I hope, at some near future date, all sanitariums operating will be required to come up to certain state or federal standards or be closed—the sooner this is done the better. Many are now operating, which cannot even be classed as a first rate boarding house.

Coming back to our subject, may I ask, who is responsible for these unfortunate victims falling so often into the hands of human sharks? WHY, the legitimate profession is solely responsible. Many physicians know little about nervous diseases, especially neurasthenia and its vast chains of symptoms, much less of drug or liquor addictions and when they do, they cannot cure them at their homes and they take no interest in advising such patients where to go, after they have failed to cure them. These people, therefore, are left to their own selection and the glowing glib-tongued promises from makers, catch them.

PROPER SYSTEM OF TREATMENT

FIRST, a thorough examination should be made consisting of physical, mental and neurological as well as all proper laboratory tests, such as, blood count, blood chemistry, urinalysis complete, spinal fluid and basal metabolism reading, etc.

The system of treatment proper should be as follows: Pleasant environments and surroundings at all times, forced feeding, plenty of milk, psycho-therapy, physio-therapy, electro-therapy, hydro-therapy and drug therapy. In drug-therapy I want to caution against the use of Hyoscine or Scopolamine, Atropine, Codein, Spartein and especially the Barbitol group. Hydro-therapy properly used is wonderful.

The Physician's Responsibility to the New Born Infant*

R. E. WILSON, M.D.
Greenville, Miss.

The fact that a pregnant woman should be under the care of her physician from the first recognition of pregnancy until the puerperium is past is generally recognized not only by the medical profession but the intelligent laity as well. This care and supervision is not for the welfare of the prospective mother alone, but also for the welfare of the unborn baby, the object being to carry the woman safely to term and deliver her of a well child.

I shall attempt to discuss here only the care of the mother as it relates to the welfare of the baby. Also I shall attempt to point out some of the obligations of the physician to the baby through its early infancy. That this responsibility on the part of the physician exists is beyond question, and if it is not met by the physician delivering the child, advice will be sought by the mother from other sources, and immediately this happens the physician to whom the patient rightfully belongs begins to lose his hold on a little patient and possibly on other members of the family. This newly born child is the patient of the delivering physician from the time he examines the pregnant mother until he dismisses it and shows no further interest in it whether it be at the age of 10 days or 10 years. However, if the physician fails in interest and intelligent care, the mother will justifiably seek advice elsewhere.

I shall now enumerate and briefly discuss some of these obligations.

Prenatal:

1. The pregnant woman's diet should be supervised for the sake of the baby as well as for her own welfare. There should be an adequacy of minerals and vitamins in her diet to insure a baby free from deficiency diseases.

2. A pregnant woman should be examined for syphilis and if she is found to be suffering from this disease the unborn baby has an excellent chance of being cured before birth if the mother is properly treated. Certainly it is much simpler and the prospects of cure are much more certain if the child is

*Read before the Delta Medical Society, Greenwood, Miss., April 10, 1935.

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treated before it is born than if it is treated later as a congenital syphilitic.

3. Measures designed to lessen the hazards of birth injury. Any procedures which may lessen the danger of traumatism at birth should be given every consideration. The size of the foetus can in a measure be controlled by the proper regulation of the prospective mother's diet. Pelvic measurements should be routine. It has been shown that in most instances an unfavorable position of the foetus may be converted into a favorable position by external version with no danger and little discomfort to the mother.

All of the above attentions to the prospective mother are within the scope of every physician. They are not hospital procedures and by observing them the prospects of the baby being normal at birth are materially increased.

Postnatal:

When a child is born the attention of all interested is immediately shifted from the mother to this newcomer into the world.

There are innumerable questions that immediately come to the inquiring mother's mind—and the intelligent, farseeing and sympathetic physician will be prepared to at least satisfy the mother whether he be able to answer all the questions or not.

1. The question of the cord—When will it come off and how long shall the stomach binder be worn. Personally I think it matters little whether the cord comes off at five days or ten days or whether the binder be worn two weeks or two months but it does matter that the mother be reassured and given as much information as possible.

2. Circumcision—Most mothers wish their boy babies to be circumcised and this should be discussed with the mother preferably before the baby is born. Of course it may be of the opposite sex and the discussion unnecessary, however, the physician should be prepared to do this operation. If there should be any contra-indication for it, and there are some, it should be explained to the parents, otherwise there will be a feeling that the physician has failed in his full obligation.

3. Supplementary feeding—Many mothers of the present generation are unable to nourish the offspring entirely from the breast and it becomes necessary to provide a suitable supplementary feeding. I shall not go into a discussion of infant feeding at this point. I will say there are numerous milks, proprietary and otherwise, inexpensive and simple of preparation which are suitable and available. Every physician who does any obstetrics should familiarize himself with the exact preparation of one or more formulae. He should also be able to tell whether a baby is hungry or has the colic from over feeding and be prepared to meet the feeding problems of infancy when they arise.

4. Orange juice and codliver oil. It is surprising the number of mothers who know about orange juice and codliver oil. They also want to be told by the physician the age at which they should be started and the amount to be given. It is entirely probable that no two physicians in this audience would give the same reply to this question if they were asked and it is also probable that everyone would answer correctly. In other words the exact age and the exact amount is not so important but it is important to the mother's

peace of mind that she be given explicit instructions by her doctor.

5. The addition of food other than milk to the diet—Most physicians who have made a study of infant feeding agree that cereal and vegetable puree should be added to the milk diet at about the age four and six months respectively. Some begin at an earlier age and others at a later age—anyway, we will assume that to be approximately correct. There are many suitable cereals and suitable vegetables from which the mother may choose. However, I think it inspires her confidence in the physician if he will make the choice for her, giving definite instructions as to preparation and time of feeding.

6. Immunization against preventable disease—It is a generally accepted fact that infants should be immunized against diphtheria and smallpox during the first year of life. The age at which a child should be immunized against typhoid fever is more or less optional with the physician and there may be some question as to the advisability of attempting to immunize against whooping cough, poliomyelitis, scarlet fever, colds, etc. There is no phase of a baby's wel-

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A. J. Brown, M. D.

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fare about which a mother has been more thoroughly informed than that of immunization against preventable diseases. The lay press, the radio, advertisements of biological houses, the United States Public Health Service, are all repeatedly reminding the population as a whole as to the necessity of these protective measures.

A mother recently asked me if I would immunize her son against infantile paralysis. She had read in a most reputable news magazine that the procedure was not only possible but practical.

The point is this—the physician who delivers the child is the person who should be responsible for its protection against disease. He should advise the mother as to what protective vaccinations are necessary and the age at which they should be administered. Her confidence in the doctor should be such that she will accept his advice as final on these matters.

Now, why do we see mothers today taking their children to the public clinics and county health offices for immunization? I do not believe that it is because it is done free of charge. It is in most instances because the physician to whom the patient rightfully belongs has neglected to advise the mother of the necessity of having it done. Inasmuch as we have failed in this respect for so long a time it has become incumbent upon the public health service to see that it is done in order to save human life and suffering. These people are doing the job and doing it well with physicians who are especially trained for it. In fact, they are doing it so well that we are in a measure beginning to feel that they are taking from us part of our legitimate practice. Gentlemen, I say to you that it is our own fault and due to our own neglect. Very few mothers but prefer that their baby be vaccinated by her own physician rather than by anyone else. It is not only the family physician's privilege but his duty to do it, and if he fails to advise the mother of the necessity of having it done, it is but natural that she seek help elsewhere.

The use of any biological products which are heat labile implies that they shall be preserved by proper refrigeration. To my mind there is no more tragic form of malpractice than the administration of impotent vaccines and serums. Such a procedure is not only worthless for its protection or therapeutic effect but it gives the patient a false sense of security. It is true that our state law requires that all such vaccines and serums be kept at a temperature below 50 F. and an expiration date is stamped on all packages by the manufacturers and it is also true that the patient depends upon the physician for the efficacy of the product used. In other words it is up to the physician in the final analysis to see that the materials that he employs are potent.

Gentlemen, I have attempted to enumerate and discuss in a general way some of the questions that are pertinent to the practice of everyone doing general work. They are not questions that the pediatrician alone should be familiar with. It is stated by some authorities that 40 % of the general practitioner's work is in children 12 years of age and under. This 40% of today will be 40% of his adult practice tomorrow if it is properly cared for. If not it will belong to someone else.

I have purposely refrained from discussing specific procedures. Everyone has his own ideas about

each of the questions presented and no doubt they work better for him than the ones I might propose. The point that I would like to impress is that in order to keep the practice of medicine both therapeutic and preventive in our own hands it is necessary that we let our patients know that we are anxious to do and capable of doing all that is demanded of the medical profession.

Book Review

How adequate is your dictionary? Do you look in it for a comparatively new word and it's not there, or a fact about a contemporary man of medical science and find that your dictionary was printed long before this man made his contributions? Like many of your books on methods and treatment and surgical techniques are out of date, so is your dictionary.

The most convenient in size, most compact and voluminous in material, which includes specially prepared tables of tests, stains, etc., and the most up-to-date medical dictionary you will probably be able to find is Dorland's "The American Illustrated Medical Dictionary." just out in its seventeenth edition. It is a handy desk size, ready for constant use, well indexed, illustrated by 945 prints and portraits. A complete dictionary of terms used in medicine, surgery, dentistry, pharmacy, chemistry, nursing, veterinary science, biology, etc.

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Intraocular Sarcoma with Spécial Reference to Metastasis

DR. E. C. ELLETT
Memphis, Tenn.

Tumors within the eye are not so common as to be uninteresting, and they derive their importance from the fact that they are practically all malignant, and practically all are some form of sarcoma. We recognize four distinct clinical stages in their development:

1st stage—The growth is small, may or may not disturb the vision, and can be seen with the ophthalmoscope or by other means.

2nd stage—Secondary glaucoma develops.

3rd stage—The tumor extends through the coats of the eye.

4th stage—Metastatic tumors develop in distant parts of the body.

Intra-ocular tumors announce themselves by failure of the vision. This is not always very marked, depending on the location of the tumor. One case to be mentioned was operated when the eye still had serviceable vision, and I have had under observation for three years another lady with what appears to me undoubtedly a sarcoma situated well forward, and whose vision with glasses is still full normal. Enucleation has been repeatedly advised but so far declined.

The progress of such a condition is to gradual loss of sight, and sooner or later an acute attack of glaucoma. A patient seen in acute glaucoma with a history of failing vision in the eye before the attack, should be carefully examined with reference to the presence of an intraocular tumor. Such a train of events is not conclusive, but highly suggestive. Before the development of acute glaucoma it is quite the rule for patients with intraocular tumor, even small tumors of the iris, to show an increase of tension.

The prognosis of intraocular tumors is usually very good when the condition is recognized at an early stage, when the tumor is wholly within the sclera, and the eye is removed. We have long known that metastasis was specially to be feared in cases of pigmented tumors of the eye, and that it usually occurred in the liver, but even this type is not so unfavorable when treated early. Local recurrence after removal of the eye is very rare, so that in the removal of such eyes I have not hesitated to implant a glass ball, a method of procedure so desirable for cosmetic reasons. The report of a few cases may emphasize the importance of these tumors, and in a few the catastrophe of metastasis has occurred. A good many others have been observed who had no further trouble after a good many years, and a few of the more striking ones of this group will be mentioned. Attention is called to the fact that the lapse of three years without recurrence or metastasis, which has been considered by some to constitute a cure, cannot be so regarded.

CASE 7. Miss E. M., aged 43, consulted me in December, 1900 for failure of vision in the right eye of about 8 months' duration. Vision was 15/200. Down and out from the disk was a round circumscribed swelling 5 or 6 mm. in diameter, and projecting into the vitreous about 2½ mm. She had

been seen by another physician in September, who recognized the probability of a tumor as the most likely cause of the circumscribed retinal detachment. Dr. J. L. Minor saw her in consultation, and while he thought the presence of a tumor was the most probable diagnosis, he advised waiting, since the retinal detachment, which had increased, might be from other causes. The growth steadily increased in size, and in September, 1901, the detachment had increased and overhung the disk. In March, 1902, the retinal detachment had become almost complete, and in June, it was total, the eye was blind and the tension increased. The detached retina which had been smooth and fixed, was now irregular and moved a little with the movement of the eye. My advice to remove the eye resulted in a change of physicians. I saw her in consultation in July, 1902, the eye being inflamed, very painful, and very hard. Her attendant was not convinced of the presence of a tumor, since he could not see into the eye as I had been able to do, but nevertheless consented to the removal of the blind and painful organ. The enucleated eye was frozen and cut in two, showing a tumor of the choroid, as seen in the slides, with detached retina, cataract, and secondary glaucoma. The sections showed it to be a melano-sarcoma. In July, 1916, fourteen years after the removal of the eye, the patient was taken ill with some abdominal trouble, diagnosed as Banti's disease by one physician and as malignancy by another. She died in April of that year. The cause of death was given as "cancer of the spleen," but Dr. McElroy sent me sections of the kidney and liver, of which the slides are shown, and said, "I do not think that these tumors have any connection with the melanotic sarcoma removed from the eye several years ago. They belong clearly to that class of tumors known as hypernephroma."

CASE 2. Mrs. F. A., aged 48, was seen in June, 1921, on account of trouble with her left eye. In July, 1918, the trouble began with pain and redness and failing vision. The eye became blind in about ten months, and was blind when I saw her. She had been seen by several physicians, whose opinions were available in part. Dr. A. saw her in February, 1918, and noted vision one-half in the left eye, but made no note of the condition of the eye or the probable cause of the trouble. Dr. B. saw her when the eye was blind, fundus not visible, acute iritis. Dr. C. saw her in December, 1918, with increased tension, "choroiditis and hyalitis." These gave, as you see, no information as to the condition of the eye.

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She was also under an irregular practitioner for several months. The right eye was normal. The left eye was inflamed, blind, lens opaque, ball protruding 10 mm., tension increased. Down and out a large dark mass was seen under the conjunctiva, attached to the ball. It appeared to be a protrusion of the sclera. Nothing could be felt in the orbit. Motion of the eye was limited, especially outward. Transillumination of the eye showed it to be dark in the outer half. X-ray negative. The eye was removed, and was found to be nearly full of a coal black mass, which had perforated the ball and involved the orbit. This was all removed, though a complete exenteration of the orbit was not done. Radium treatment was given as soon as the socket healed. The appearance of the patient and of the eye are shown in the slides. The microscopic diagnosis was as follows: "This tumor is some form of sarcoma. From the form of the majority of the cells and the general 'grain' of the tissue, I think this is a fibroblastoma. It ought to yield to radium." The patient lived five years and died of cardio-renal disease. There was no local recurrence and no metastasis. The treatment was not orthodox, in that the orbit should have been exenterated.

CASE 3. Mrs. T. M., aged 52, was seen in February, 1917 on account of failing vision in the right eye for six months. The failure was gradual, with narrowing of the field, and finally blindness, pain and inflammation, which had been present ten days when I saw her. The left eye was normal. The right was blind, with dilated pupil, shallow anterior chamber, much redness, pain, and tension considerably elevated (90-100 McLean). There was no visible retinal reflex, but a gray reflex from the vitreous. Tumor was suspected, but it was decided to trephine the eye to relieve the acute glaucoma. This was done on February 2, the operation being painful, but otherwise uneventful. The next day a large round smooth dark mass about 10 mm. in diameter was found protruding through the trephine opening. The presence of a tumor seemed to be most likely and the eye was removed. The sections show the ocular contents prolapsed through the wound of operation, and a flat tumor of the choroid about 11 mm. broad and 3 mm. thick encircling the nerve head. Sections showed it to be a sarcoma. In August of that year the patient died of some abdominal growth, whose exact nature is not known to me.

CASE 4. Mrs. J. B., age 46, seen in May, 1905, with history of failing vision in the left eye for a year. The upper half of the pupil was obscured by a dark mass which lay close behind the lens and occupied almost one-half of the pupillary opening. Fundus well seen. Vision 20/30 with glasses. Two consultants agreed as to the presence of a tumor and the eye was removed July 22, 1905. Microscopic diagnosis, melanotic sarcoma. The patient died in April, 1909 of a malignant abdominal growth, doubtless metastatic.

CASE 5. Dr. H., aged then 26, was seen in 1904 with a small lesion in the fundus of the right eye which was not definitely diagnosed as tumor for several weeks. The rapid progress of the lesion, retinal detachment, loss of vision, and other characteristics enabled this diagnosis to be made, and enucleation was advised. After consulting several other physicians, and receiving, according to his state-

ment, the same diagnosis from every one who took the trouble to examine him carefully, the eye was removed by the late Dr. Coleman Cutler of New York. Serial sections of the eye showed, not only a sarcoma of the choroid, but that it had invaded one of the scleral veins, as can be seen in the microphotograph. As far as the vein could be seen in the section, it was crammed with tumor cells, and it seemed certain that the part of the vein remaining in the orbit must have been similarly affected. Nevertheless, the patient lived 25 years without any sign of local recurrence or metastasis, and died of other causes.

CASE 6. Miss F., aged 35 years, was seen April 27, 1927, with the history that she had noticed a small pinkish spot on the right iris for about five years, during which time it had slowly increased in size. She had had no pain or discomfort, but recently had noticed a disturbance of the vision in this eye. The left eye was and is normal in every respect. Examination of the right eye showed the pupil 6.5 mm. wide and fixed. In the lower temporal quadrant of the iris was a pinkish-yellow growth which seemed to involve the whole thickness of the iris but did not reach the root. A small portion of the iris was visible between the limbus and the tumor, but at the other end it projected slightly into the pupil. There were two other small yellow spots on the iris in the same quadrant, but they did not appear to be pathologic. There were a few vessels visible on the growth, the media were clear, there was a visible arterial pulse, and the disc was cupped. The tension was 60 mm. Hg (Schiotz). V. 15/70, improved to 15/40 with glasses.

A diagnosis of sarcoma of the iris was made. On April 29, a keratome was inserted along the upper side of the tumor and the incision enlarged downward with Stevens' scissors. The iris was grasped on both sides of the growth and the whole tumor excised, with a little of the iris on each side of it, and to the base. The eye healed without any trouble. The tension was reduced to 17 mm. Hg. and the vision remained the same. After healing, the eye showed a large coloboma down and out, which extended well under the scleral edge of the limbus; the growth was apparently completely removed. A specimen was sent to Dr. Verhoeff, who made the following report:

"The tumor of the iris that you sent to me for examination I find to be a spindle-cell leukosarcoma. The tumor involves the whole thickness of the iris and extends from the pupillary margin. Whether or not you have removed it completely I am unable

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to say.

The blood-vessels in the tumor are all lined with endothelium, so I do not believe that there is much danger of metastasis. If you think you have removed a good margin of the iris all round the tumor, I should not enucleate unless the tumor recurs.'

The patient returned October 4, 1927, complaining of a little inflammation in the eye. The vision was the same, tension 22 mm. Hg., and at the inner angle of the anterior chamber there was a small mass growing from the iris and pressing against the posterior surface of the cornea. This mass appeared to consist of two small lobes, and while these details were all more plainly seen with the slit-lamp, nothing of more importance was visible. The patient was advised that the growth was recurring and that she should have the eye removed. About six months later her sister reported that she was having no trouble but I did not see the patient herself for a year, namely, November 10, 1928, at which time she came stating that for "some months" she had noticed a swelling above the right cornea. The vision was reduced to perception of light, and the growth in the angle of the anterior chamber had extended a little up and down from what had been seen a year before. Above the cornea there was a round, dark red tumor about 10x6 mm. in size, covered by conjunctiva. This did not quite reach to the limbus. The only other abnormality noted was a mass of uveal pigment on the upper margin of the pupil. The eye was removed on November 14, under local anesthesia. She was given deep X-ray treatments after the operation. The eye was sent to the Army Medical Museum and a preliminary report was made as follows:

"Paraffin section of the ciliary body, iris, and tumor mass shows a spindle-cell sarcoma covering the anterior surface of the iris and involving the entire thickness at the pupil, and again at the filtration angle, and extending into more than half of the tissue of the ciliary body. Occasional pigment cells are seen in these areas. The mass outside the globe is similar, and is evidently the same tumor as that originally removed."

The final report, which did not add very much to the first one, is as follows:

"Section passes through the coloboma of the iris on one side. Melanotic spindle-cell sarcoma involving the iris and ciliary body and extending through the sclera at the limbus, forming a nodule at the limbus. There is relatively little pigment. Secondary glaucoma."

In September, 1934, the patient was examined for a lump over her left breast and was told that the mass was not attached to the breast and was probably some "inflammation" on her rib. In April, 1935, she complained of weakness and shortness of breath. There were signs of fluid, thickening of the pleura, and air encapsulated in the apex of the left chest. On the left fourth rib there was a hard irregular mass 10x4 cm. in size and elevated about 1 cm. It was firmly fixed to the rib and not tender. A biopsy of the mass was advised, but has been refused. X-ray showed no pathology in the lung.

Dr. Duane Carr thinks that this tumor represents a metastasis from the original growth in the eye.

CASE 7. In contrast to these cases, I want to show the picture of an eye with a cyst of the iris

following an injury. This had been diagnosed sarcoma and enucleation advised, but it was easy to recognize it as a cyst. It was removed by operation, with preservation of the eye and the vision.

The School-Child's Breakfast

Many a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school. A happy solution to the problem is Pabulum, Mead's Cereal pre-cooked and dried. Six times richer than fluid milk in calcium, ten times higher than spinach in iron, and abundant in vitamins B and G, Pabulum furnishes protective factors especially needed by the school-child. The ease with which Pabulum can be prepared enlists the mother's co-operation in serving a nutritious breakfast. This palatable cereal requires no further cooking and can be prepared simply by adding milk or water of any desired temperature. Its nutritional value is attested in studies by Crimm et al who found that tuberculous children receiving supplements of Pabulum showed greater weight-gain, greater increase in hemoglobin, and higher serum-calcium values than a control group fed farina.

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Selection of Students in Schools of Nursing*

MABEL F. PITTMAN, R.N.
Vicksburg Sanitarium
Vicksburg, Miss.

Many of our hospitals and schools of nursing welcomed the recent survey made by the grading committee, the purpose of which was, first, to learn the supply and demand of nursing service, second, what nurses need to know and how they may be taught, and third, the grading of nursing schools.

I believe that our conscientious schools wish to follow the suggestions of this committee. They are anxious to graduate young women who have met the basic requirements for general nursing and those who have a broad and sound foundation for further education. If we wish to graduate this type of nurse we must select the right kind of material, we must give enough theory with adequate clinical material, have a well organized school and have as a faculty members who are prepared to teach their specialties. It is just as important for each head nurse to have had teaching preparation as it is for the instructor who is carrying the greater part of the teaching load in the school.

We are facing the fact that many of our nurses have made good servants as students. They have learned to take orders and carry out the simplest nursing procedures. Little thought has been given to how much they would be able to think for themselves or meet the situations as they are presented to them as graduate nurses.

Nursing schools need to choose young women who are mature and prepared to meet the education required of them.

My paper deals with an experiment in the selection of applicants for schools of nursing. I believe this plays one of the greatest roles in the production of good nurses. We have not been careful in our choice of applicants. They were chosen because they met the minimum requirements of the school. They filled in the school application blank—name, age, address, names of parents, references, school advantages and date of desire to enter. A physical examination form was filled in, also a report of dental examination. The high school certificate was sent to the principal of the school, filled in and returned to the nursing office with all other forms.

We chose the applicant who probably was barely eighteen years of age, was still in the adolescent period and not prepared to meet the more mature things in life.

Health certificates were not always satisfactory. Family physicians thought to be kind many times by signing a perfect health certificate only to the disappointment of this young woman when she was found to have a congenital disease of the heart, a curvature of the spine, weak eyes, defective feet or some other abnormality, any one of which is a handicap to

the nurse.

Many of our applicants held high averages from high school but their theoretical background for nursing was incomplete. Some of them were not able to work the simplest percentage problem. They did not know that mathematics was so important in nursing and that biology would make such subjects as bacteriology, anatomy and physiology more easily understood. Therefore, instructors in schools of nursing have been met with the task of teaching these students subjects they should have had before entrance to the nursing school.

This selection of students not only caused irregularities in the school but gave to the nursing profession material not physically or mentally fit. Therefore, added expense was attached to the school and to the student. It is true that this type of young woman is not capable of nursing the sick and puzzling cases and she is not an intelligent assistant to the physician. Nurses and doctors should be so closely associated in their work of saving lives that there should be the finest type of comradeship.

Knowing the importance of the nurse to humanity and what a good nurse means to our physician, I believe that it is most necessary that we analyze every detail in the selection of applicants and make our eliminations before entrance to our schools of nursing. We need to choose each applicant with a more careful check up of culture and education, family background and health.

We are now sending to the applicant the same forms with more careful and complete investigation. We are asking for a recommendation from the principal of the high school, the number of credits given, the key of grading and the standing of the applicant in her class. Was she in the upper quartile of her class or a C and D student making only average or fair grades? We are insisting upon an interview, but if distance is too great, we are asking for a recent regulation size photograph.

Nursing educators should be closely associated with our high school principals, deans and instructors. We should be one of them if we wish to make a four year high school diploma or sixteen credits our minimum requirement. We have failed in some of our schools of nursing to become acquainted with other schools of education. We should send to the desk of our high school principal the current curriculum and extracurricular program used in our schools of nursing that the teachers in high school

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*Read before the joint meeting of the Louisiana and Mississippi State Hospital Association, Biloxi, May 13, 1935.

may acquaint themselves with our courses of study as they do with those of our colleges and universities.

It is a splendid plan for a representative from the nursing school to give an annual talk to all high school girls, especially those of the freshman class. She should explain in this talk the high school subjects necessary for admittance to the nursing school. This plan, also the broadcast, are being practiced in many communities. It is not to encourage girls to become nurses, but to give to them the proper guidance if they wish to choose nursing as a profession. We turn away many applicants who are not prepared with the right kind of preliminary education. We are admitting only those who are prepared for higher education; those who have had a good course in mathematics, including algebra and geometry, those who have had chemistry, the histories, English and literature, one or two languages and biology. Preference is given to the young woman who is athletic, has had some basketball, tennis and swimming, and to the one who has had some of the finer arts.

To have a better check on our new applicant, we have added another form (Form 5) to our application blanks. This form was revised from one of our very good university blanks and was made to comply with the needs of a nursing school. We have used it for applicants of the 1934 and 1935 registration and admittance.

The form shown is a picture of an applicant who registered in September, 1934, and was admitted February 1, 1935. She had a pleasing personality, is very neat and attractive, does not overdress but dresses well, out of uniform. She is from a family of professional people but her immediate family, father and mother, has not had more than grammar and high school education.

FORM 5—PERSONAL RATING. PAGE 1. SCHOOL OF NURSING

The information on this form will be held as strictly confidential.

Name of Candidate _____
School or College _____

The committee on admission is desirous of having confidential information regarding candidates for admission, particularly as to the qualities and characteristics listed below (1) from the high school principal and teachers in senior subjects for the first year students; or from college officers and instructors for students with advanced standing; and (2) from others qualified to judge.

TO THE RATER: You will greatly assist the student named if you will give a rating with respect to each question by placing a check mark (x) on the appropriate horizontal line at the point which represents your candid evaluation.

PERSONAL APPEARANCE: { Dress: Poor Excellent (x)
Physical: Poor Excellent (x)

Dress: Tidiness; appropriateness; make-up.

Physical: Hair; teeth; complexion; maturity; health.

BEHAVIOR: { Poise (x) Voice (x)
Speech (x) Confidence (x)

Poise: Carriage; disposition.

Voice: Tone (pleasing or irritating); degree (loud or determined).

Speech: Enunciation; language.

Confidence: Shy; egotistical.

CULTURAL BACKGROUND:

Father: Education, Elementary; Health, good.

Mother: Education, 10th grade; Health, good.

REASON FOR CHOOSING NURSING { Desire to nurse (x)
Desire to leave home
AS A PROFESSION: { Security (x)

What is considered the candidate's chief weakness?

Does the candidate play: Basketball? Yes; Tennis? Yes; Swim? Yes.

Is the candidate: { Thrifty (x)
Saving (x)

Signed _____ Position _____

RATING AT CLOSE OF PRELIMINARY PERIOD
PROFESSIONAL FITNESS: (A, excellent; B, good; C, fair; D, poor; E, very poor.)

Accuracy _____ B	Acceptability to
Conscientiousness _____ B	Patients _____ A—
Acceptance of Criticism _____ A—	Adaptability _____ A
Executive Ability _____ B+	Courtesy _____ A
Initiative _____ B+	Dignity _____ A
Interest in work _____ A	Enthusiasm _____ B+
Loyalty _____ B+	Imagination _____ B+
Memory _____ B	Industry _____ B+
Neatness in work _____ B+	Personal Neatness _____ A
Observation _____ B	Resourcefulness _____ B+
Professional Attitude _____ A	Sense of Humor _____ C
Punctuality _____ A	Sympathy _____ B+
Reliability _____ B+	Sincerity _____ B
Tactfulness _____ B+	Even Temper _____ A

What is considered as candidate's chief weakness?
Lack of leadership.

What characteristics do you consider need special development?

How do manner and appearance affect you? Favorably.

Does she need prodding? No.

IS SHE A LEADER? { Allows others to take lead (x)
Leads in important affairs (x)
Leads in minor affairs (x)

CONTROL OF EMOTIONS: { Too easily moved to anger, depression, etc.
Lack of emotions
Tends to be over emotional

Do you consider the applicant acceptable for the nursing profession? Yes.

Signed: _____
Date _____ Official Position _____

A diagram is prepared to show a summary of each

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preliminary student's characteristics and make-up interpreted in three headings, personal appearance, manner and culture, as compared with the average. The student recorded on Form 5 showed the greatest improvement in manner, very slight improvement in personal appearance and culture. The fact that she made improvement even though an average girl shows that she was able to adjust her life to that of nursing and the sick room.

After we have used Form 5 for one year and we feel that it has been worthwhile and helpful, we shall then send it to the office of the high school principal with other high school blanks to be filled in by teachers of senior subjects.

We have found these forms to be very helpful. The poise with which the young woman enters the nursing office at the close of the preliminary period is greatly improved many times over the day she entered for her interview; the voice tones to the sick room and she has become a more matured and responsible young woman.

The next check made of our students was by the admittance or educational tests. These comprised the high school content examination devised by G. M. Ruch, G. N. Cleeton and G. D. Stoddard, and were purchased from the University of Iowa Standard Tests and Scales. We were much assisted in giving these tests by Mr. Crawford McGiveran, principal of the Carr Central High School of Vicksburg.

The first test was made up of 250 questions and covered such subjects as English and literature, mathematics, science, history and social science. The second test was the Terman Group Test of Mental Ability. This test was composed of ten short tests.

These tests were given to a group of thirty-one students. They were given at 7 p. m. when students were quite fatigued with the exception of a few students who received the tests in the morning. Fatigue did not change the curve of the second test, which indicated that fatigue did not affect memory. The group, however, was quite small to prove this point.

The scores of the first test ranged from 30 to 137. The standard mean for this test was 106. Twenty-four plus per cent of our students fell above the standard mean. The mean or average in our own school fell at 75.5 per cent. The standard mean for the second test was 160. The range of scores for this test was from 68 to 191. The mean or average in our school fell at 118.

The curve of the second test followed with the exception of five students very closely the curve of the first test. The student receiving the high score of 137 in the first test received the high score of 191 in the second test. A student receiving the score of 132 in the first test received the score of 176 in the second test. A student receiving the score of 132 in the first test received the score of 176 in the second test.

The student holding the high score has an exceptional cultural background. She is of mature age, has a pleasing personality, holds high grades in our schools, is always dependable, is a reader, is acceptable to patients and possesses all of the qualifications of a good nurse. She is the type of student that all nursing educators wish to have in their schools.

I believe if we could carefully give these tests when the interview is made many of the misfits in our schools of nursing would be eliminated. They

give to us the learning capacity of the student, the retentative ability she has and many of the characteristics she possesses.

The range of ages for this group of 31 students examined is 18 to 29 years; 16 2/3 per cent being 18 years old; 16 2/3 per cent 18 to 20 years old; and 66 2/3 per cent 20 or more years old. The entire group is made up of high school graduates; 33 1/3 per cent graduated in 1933 and 1934 and 66 2/3 per cent in 1932 or earlier. Average grades of 80 to 85 per cent in high school were held by 34.5 per cent, averages above 84 per cent by 61.2 per cent, and below 80 per cent by 4.3 per cent. The student who fell below 80 per cent could not make the grade required in our school of nursing. An average grade in our school is held by 67.7 per cent; 19.3 per cent hold above the average; and 13 per cent of this group discontinued before the tests were completed.

From a comparison of high school averages with theoretical averages in nursing theory and nursing practice, I believe that it is necessary to admit students who are over 20 years of age and have average grades of 80 per cent or above in high school to carry the work in our school of nursing.

All applicants are being checked by this method in our school of nursing. The class is formed as early as possible before entrance to the school. The school committee makes the choice of applicants. This choice depends upon the marks made in the educational tests and the standing of the student in her high school, preference being given to the students holding the best selected subjects in high school, granting that health certificates and cultural backgrounds are acceptable. Preference is given to college students.

The class is admitted in a group. The hour of arrival is planned. If the school does not have a hostess the director or assistant director with a senior student is chosen to receive the group. This day is an important one in the life of this young woman and she should be made to feel the ease and comfort of a well organized school. After she has registered she is shown every courtesy and directed to her room. Older students are made to feel that they are big sisters to the members of this new group. A pleasant and cordial atmosphere should be maintained. When a group of applicants enters our school of nursing a great responsibility lies in the board of trustees and the head of our school.

If we wish to retain schools of nursing we must keep in mind first the proper care of the patient.

HARVEY F. GARRISON

HARVEY F. GARRISON, JR.

Pediatric Diagnosis,
Diseases of Infants and Children
Lamar Life Building
Jackson, Miss.

CHARLES D. BLASSINGAME, M.D.

414 Physicians and Surgeons Bldg.
Memphis, Tennessee

Oto(ear)-laryngo(throat)-rhin(nose)-ology
Bronchoscopy-Esophagoscopy
Ionization for Hay Fever

This means well chosen students, properly prepared teachers, supervisors and head nurses and adequate clinical material with time for study and preparation of class work, allowing at least one and one-half hours of study for each hour of lecture. There should be an eight-hour day in every school. There should be regular time for extracurricular activities, rest and recreation and proper living conditions as in any other schools. More ward teaching and study should be provided. A student should be a student in the ward as she is a student in the classroom. Affiliation with another school should replace obstetrics, pediatrics and contagion if not sufficient in the home school.

Are our schools of nursing prepared to give this type of education to our students today? Hospital board members and members of school of nursing committees should be prepared to say to the student, "It is our hope to graduate you from this school of nursing, including private, hospital and public nursing." Let us not forget to give to her a broad and sound foundation for continued study.

Breaks Leg In Accident

Dr. F. L. Husband, of Blytheville, Ark., who operates the Blytheville Hospital, recently sustained a fractured right leg when he slipped and fell from a log ramp at the W. S. Barnes sawmill at Huffman.

Dr. William White Jackson Dies

Dr. William White Jackson, one of the first men to perform a surgical operation in Northeast Arkansas, died at his home in Jonesboro, Ark., Sept. 7. He was 72 years old. His health had been failing for several years, but he had continued his practice.

Dr. Jackson was Jonesboro's oldest practicing physician.

With Dr. C. M. Lutterloh and Dr. C. L. Burns, Dr. Jackson founded St. Bernard's Hospital here and is said to have performed the first operation after it was established.

The Craighead-Poinsett Medical Association conferred the title of Dean of Doctors upon Dr. Jackson several years ago. He served as president of the society and took an active interest in its affairs.

Dr. Jackson was president of the board of health here for 20 years, served as president of the hospital staff, was a member of the state board of health and held numerous other offices in medical organizations.

He was born at Bellville, Fla., of a family that had been connected with the medical profession for generations, and was reared at Forrest City, Ark. He held diplomas from the University of Tennessee Medical College, New York Post Graduate Institute and the Poly-clinic Institute of New York.

Before coming to Jonesboro, Dr. Jackson practiced at Bono, where, it is said, with Dr. Charles Hale, he performed a bone operation said to have been the first in this section.

Dr. Jackson is survived by his wife, Mrs. Ida Bell Jackson; one son, Nick Jackson; one daughter, Miss Mollie Jackson; and two brothers, R. J. Jackson of Wynne and T. F. Jackson of Memphis.

A Correction

In the Story "Ward Rounds," by Dr. Isidore Cohn in our July issue, on page 8 second paragraph, a part of a sentence was omitted. The corrected paragraph should read "Again I turned to the oto-larynologist, as I knew such a growth was not primary in the neck. On his second examination the consultant reported that a tiny ulcer existed in the fossa between the tongue and the tonsil. This patient lived about one and one-half years, in the meantime the lesion on the tongue grew progressively worse."

Dr. Julius Crisler Dies Suddenly

Dr. Julius Crisler, prominent Mississippi surgeon and brother of Dr. J. A. Crisler Sr., of Memphis, died Sept. 13, at the Jackson Infirmary, Jackson, Miss., after a week's illness. He suffered internal hemorrhages and several transfusions were given him in an effort to save his life.

Dr. Crisler is survived by another brother, Dr. Benjamin Crisler of Itta Bena, Miss. His wife, a sister of Bishop Theodore Bratton of Mississippi, died two years ago.

Dr. Crisler was a native of Hinds County, a member of a pioneer Mississippi family. He was educated in Mississippi schools and graduated in medicine from Jefferson Medical College, Philadelphia, Pa. He was well known both for his surgery and his philanthropies. He was a member of the American College of Surgeons and the American Medical Association.

Dr. J. W. Gillespie Passes Away

Dr. J. W. Gillespie, of Sherman, Miss., age 60, for many years one of this section's leaders in the medical profession, died at his home in Sherman Sept. 7.

A member of the Christian church, he was a devout and sincere Christian.

He was the surgeon of the Frisco Railroad at the time of his death.

Dr. Gillespie came to Pontotoc County from Tate County 35 years ago.

Funeral services were held in the Baptist church of Sherman, with the Rev. Wingo, preaching the funeral sermon, assisted by Bros. Bailey, and Barnes, Sherman, and Rev. Armor, of Amory.

Active pallbearers were: Drs. R. D. Kirk, W. H. Eason, A. J. Stacy, G. L. Brown, R. P. Donaldson, R. H. Pegram, R. W. Carruth, and Robert Shands.

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President's Message*

W. M. CUNNINGHAM, M.D.
Jasper, Ala.

There is special charm in trekking to Mobile at this season of the year. Mobile always smiles earliest with bud and bloom, even before Winter's grip has loosed its hold elsewhere in Alabama. No city is more interesting to the visitor, whether he hails from the East, the West, the North or the South. This is because of Mobile's historic background. Besides the visitor's enjoyment of the City's modern accomplishments and advantages, there are romance and old world atmosphere and heroism of people who have made Mobile famous in history, which may be eagerly delved into by the visitor to his enjoyment and satisfaction.

Not least in interest are the accomplishments, the activities and the devotion of the medical men in the past, who wrought in this City, and built and shaped the destinies of organized medicine in Alabama.

It is not our purpose, nor is it now opportune to recount the deeds of valor, the heroism, the privations for the sake of medical knowledge, the devotion to duty as they saw it, of these pioneers in medicine. It is, however, meet and proper to recall even here and now, that we owe a debt of gratitude to these men who have so wisely opened the way to the advancement in medical knowledge—a debt we can but partially repay, only by showing a like devotion to, and an interest in, the fundamentals so wisely laid before us; and to foster the traditions which time has proven to be the only safe and sound foundation on which our superstructure can be built with safety to withstand the ravages of time.

The names of these heroes are not only imprinted indelibly on our minds, but stand out in bold relief in the pages of written history, so that I need not recount them by name. Josiah Nott, Wm. Anderson, Geo. A. Ketchum, Frank Ross, J. W. Mallett, F. E. Gordon, J. F. Heustis, pioneers in the teaching of medicine in Alabama; and Marechal, Mastin, Gaines, Sledge, Rhett Goode and Harry T. Inge—these are not all, but a few of them. As a tribute of respect to their memory, and as a token of our esteem for their achievements, and for the influence of their lives upon us, and with a deep and lasting reverence for the heritage they have left us, let us for a brief moment arise. Please be seated.

Uppermost in the minds of most, if not all of us, are thoughts in reference to the preponderance of the legislation now being proposed pertaining to the practice of medicine.

Among the bills proposed, and actually before the legislatures, both State and National, is the so-called Wagner Bill which seeks to socialize medicine. The motives which have prompted politicians to sponsor such a measure as the Wagner Bill are not exactly understandable, and should give rise to question by the public. The wish to gain popular favor at the expense of both the medical profession

and the public, by riding a popular wave to gain temporary fame—this may have been an incentive.

Whatever the motive, and whatever the provisions aimed at in bringing this bill before Congress, it is hoped that a sane and sober public, after sane and sober thought, will disapprove of the measure, overwhelmingly.

The same may be said of the so-called Epstein Bill, which is promoted by an organization known as the American Association for Social Security, and sponsored by the Association's agents before State Legislatures, in the hope of having the several States pass this measure as State law. It is to be hoped that at least our own State Legislature will be able to see that the measure is ill-advised.

The operation of the measure, if it should become a law, would be to not only destroy initiative in the medical profession in its attainments, but also to destroy initiative in the very persons who are supposed to be benefited. The more this class of individuals is helped, the more they will expect and take. Metaphorically, the operation of the measure is a wholesale blood transfusion, rendering the donor feeble and anemic and providing the recipient with the means of becoming corpulent and plethoric by other than his own efforts, this transfusion of blood to be a perpetual thing, with no prospect of cure, not even the intention of a cure. Must it be that the honest toiler shall by law feed the sloth? In its last analysis, the operations of the measures known as the Wagner Bill and the Epstein Bill are pure Socialism.

By referring to the sloth, I do not mean to imply that we should not relieve distress and suffering to the extent of our ability. We are doing this. But will the skillful doctor give expert service under duress, where initiative has been destroyed, and the time honored relation of doctor and patient has been eliminated?

There was never a time in the history of medicine, when the medical profession was put to the test to the extent to which it is now being put. It is time for sane and sober thought.

Excuse is being made by certain interests in our midst and elsewhere for the establishment of so-called group hospital service. This movement is being sponsored on the assumption that State medicine is upon us anyway, and that this will be a means of forestalling the latter. Should we jump into the fire to keep from being burned? Group hospital service and group medical service have sprung up in many centers during the last few years. They flourish for a while and gradually die out. They appeal to the public and to some of the profession, but after having done violence to the organized profession they fail in their purposes and disappoint their promoters. Statistics show that both the mortality and the morbidity in centers adopting group practice are increased over that which obtained before by the adoption of

ROSS E. ANDERSON, A.B., M.D.
Standard Life Bldg. (Suite 515)
Jackson, Miss.

Bronchoscopy
EYE, EAR, NOSE AND THROAT
Ionization for Hay Fever

*Excerpt from President Doctor W. M. Cunningham, of Jasper, Ala., read before the state medical association at Mobile, April 16, 1935, through the courtesy of the Journal of the State of Alabama.

such systems. Comparisons also indicate increased cost.

Margaret Sanger's Birth Control Bill, with petition attached, was mailed broadcast to doctors over the Nation, and was no doubt received by most of you. It was accompanied by a request to get signers to it and hurry it back to Washington, so that Congress could act quickly, ere some baby might be born that was not really intended to be born.

There is probably no time in the history of the medical profession in which a greater number of bills has been proposed effecting the practice of medicine, than at the present. I am merely calling attention to a few of them for the purpose of giving a word of warning. The American Medical Association, through its House of Delegates, and its Board of Trustees, has gone into these matters with thoroughness, sincerity and unbiased interest, both to the medical profession and to the public; and the views expressed by the Association will go a long way toward molding public opinion toward a fair and proper understanding of the question at issue. It therefore behooves us to be informed, and by all means not to be swept off our feet by the propaganda that is being put out by politicians favoring this or that pet measure. The ten principles enunciated at the Cleveland meeting of the American Medical Association constitute fair and proper criteria with which to consider any proposed medical legislation. If due time is allowed in which to allow the crystallizing of the public opinion on this question, right will prevail. The far reaching influence of the individual doctor's expressed views on any question of this sort has an incalculable effect on his immediate surrounding friends and clientele, and this influence should be exerted because his friends expect it and look to him for the advice which will bring order out of chaos.

I do not wish to dwell unduly on the matter of medical legislation, for the reason that we have in waiting a most able and instructive report from the Committee on Legislation and Medical Economics soon to be presented.

A proper gesture at this time by the members of the medical profession would, in my opinion, be the regulation as far as possible, of the medical and surgical fees to be charged by members of the profession. It is a well known fact that there is no uniformity in the matter of fees among doctors, and the public cannot understand why this is. Some are excessively high for a given service and some are too low. A getting-together in some way of the members of the profession, by which they can show to the public that the fees to be charged are reasonable and right and are in conformity with the quality of the service rendered and the ability of the patient to pay, is indicated.

FEE-SPLITTING

That this evil exists goes without saying. To what extent we have no way of knowing. Much has been written and said condemning the practice, but nothing has been done that stops it or even mitigates it. It is a most unfair and unjust practice, in which no ethical doctor would engage. It is a form of bootlegging—bootlegging in human flesh, if you please. The bootlegger in liquor is deemed a man of low class and a lawbreaker, which he is. The

bootlegger in human flesh is the greatest criminal. The liquor bootlegger is apprehended sometimes and punished. The human flesh bootlegger is never apprehended, and as such is never punished. If there has been action taken against a violator of this law in Alabama, I have no knowledge of it. Our statutes are couched in very strong language concerning this crime, but the legger and the leggee ply their trade unmolested, and in defiance of the law, as if to facetiously say, "Who's afraid of the big bad wolf." We had as well have no law on the books on this question. Can not the Association adopt some measure by which teeth can be put into the law? Those who engage in this kind of law violation should be punished. Of course we need not be concerned here about the huge masses of brimstone that will be consumed in the world to come, in giving these fellows a just recompense for selling and buying patients or of bootlegging in human flesh. Equally reprehensible are the abortionist and the fetal murderer. At present the only mode of procedure lies with the County Board of Censors. This Board meets with signal failure largely because the crimes are in their own household, and no one will venture to prosecute. Also, there is lack of means with which to pay a detective, who really is the one man capable of apprehending these evil doers.

I recommend that this matter be referred to the Committee on Legislation and Medical Economics, and under the advisement of the Board of Censors, with instructions to try to work out some method or methods of legislative procedure that will be effective in apprehending and punishing those who are guilty.

Tuberculosis Abstracts

Clinicians and epidemiologists are concerned with the prevention of the spread of tuberculosis. Since the tubercle bacillus is the sole direct cause of tuberculosis, emphasis has been placed on the sputum which conveys the bacilli and on closeness of contact between patients and healthy persons. Isolating sputum-positive patients and collapsing the infected lung to prevent the outflow of infected sputum have been the chief measures employed for the prevention of the disease. A pathological phenomenon of primary significance, which has been largely overlooked, is softening of the caseous tubercle. Esmond R. Long, in the Journal of the American Medical Association, points out the significance of caseation and softening, clinically and epidemiologically. The summary and brief abstracts are here given.

SOFTENING OF THE CASEOUS TUBERCLE

1. Tuberculosis in its epidemiologic aspects has its source in a specific pathologic phenomenon, softening of the caseous tubercle.

This is the key problem in tuberculosis. If caseous tubercles did not soften the disease would

DRS. O. S. McCOWN — O. S. McCOWN, JR.

GYNECOLOGY—UROLOGY—SURGERY

899 Madison

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be practically self limited. The course of pulmonary tuberculosis may be summarized as follows. Following infection, cellular and subsequent caseous tubercles are formed and some of these soften. Caseous matter discharged into the bronchioles is aspirated. New tubercles are formed, some of which in turn soften. If the softened matter is coughed out, it may infect other people.

2. The phenomenon of softening of the tubercle has long been recognized but not commonly identified as a specific pathologic process, distinct from caseation.

Laennec described the softening and liquefaction of caseous tubercles and their significance, but in modern textbooks the two phenomena of caseation and softening are commonly not separated, and the distinctive nature of the latter process is not stressed.

3. The significance of softening of the caseous tubercle for epidemiology lies in the fact that associated with it is an enormous multiplication of tubercle bacilli. The latter are commonly hundreds or thousands of times as numerous in the semiliquid contents of softening caseous nodules as in the necrotic walls of old cavities.

Even less attention has been directed to the collateral event with the softening, namely, an extraordinary multiplication of tubercle bacilli. Koch noticed that tubercle bacilli were present in greatest number in the interior of cavities, the walls of which are undergoing rapid liquefaction. When the product of tubercle infiltration first discharges into a bronchus it has maximum infective power. Not before nor again after are tubercle bacilli to be found in the region concerned in as great number. The soft yellow lumps sought by the technician examining sputum are nothing more than bits of debris from the liquefying caseous nodules.

4. Three types of cases (illustrated by reports in the article) may be distinguished in a general way on the basis of the number of bacilli in the softening regions, a chronic type with a moderate concentration of bacilli in the softening lesions, an intermediate type, and an acute type with vast numbers of bacilli.

The three cases cited were an elderly Jew with pulmonary tuberculosis of exceptional chronicity, a young American white adult with pulmonary tuberculosis of ordinary duration and a Negro child with "adult type" tuberculosis of extraordinary severity and rapid progression. All three died and came to autopsy. The phenomena of softening and bacillary multiplication were qualitatively the same in all three but varied quantitatively with the type of case. They represent the two extremes and the average in the intensity of the processes concerned. All three cases exhibited the presence of enormous numbers of tubercle bacilli in caseous lesions undergoing softening and the number of bacilli was much greater in the softening lesions than in the walls of old cavities (commonly considered the chief source of spread of bacilli).

5. The fundamental nature of the process of softening is still unknown. It is not equivalent to suppuration. Attempts to put it on an allergic basis have not been entirely successful.

Neither the cause of the softening nor the ex-

planation of the enormous number of tubercle bacilli present is definitely known. Softening is not due to the proteolytic action of leucocytes, present as a result of secondary bacterial invaders. Bacteria and fungi not chemotactic for leucocytes but possibly rich in proteolytic enzymes, do not account for it. That softening is an allergic process has been suggested but there are several objections to this view.

It is not yet clear whether the tremendous growth of tubercle bacilli precedes or follows the softening. If subsequent research proves that the softening comes first, the multiplication of bacilli can be explained on the basis of the new opportunity afforded by the softening for oxygen ingress and flow of fluids containing nutritive elements. Lurie has suggested this for the analogous process in tuberculous animals.

6. The softening tubercle should receive more clinical consideration than is at present the case. Successful treatment of tuberculosis by lung collapse owes its favorable outcome as much to prevention of drainage of liquefying tubercles as to the obliteration of large cavities. Lung collapse, improperly applied, particularly with excessive pressure, even when obvious cavities are obliterated, may result unfavorably through expulsion of highly infective liquefying matter into tributary bronchioles. The most appropriate lung collapse, as far as the softening tubercle is concerned, is that which stops motion of the lung and partially or completely obliterates the small bronchiolar outlets from the liquefying masses.

Unfortunately, softening lesions can probably not be recognized clinically. Even roentgenograms do not distinguish unsoftened and softening caseous nodules until the latter progress to small cavities. Yet from the standpoint of treatment the subject is highly significant. To prevent the spread of the disease inside the lung or to other persons is the ideal treatment. The only method of absolute prevention would be obstruction of the outlet of the developing cavity. In a motionless lung the discharge of softening contents of a new cavity is not likely. Proper pneumothorax will tend to prevent escape of the contents but improper pneumothorax (with positive pressure) might result in expulsion of the semiliquid, bacilli-rich mass and aspiration into healthy parts of the lung.

From Pathology to Epidemiology in Tuberculosis, Esmond R. Long, M.D., Journal of the American Medical Association, May 25, 1935.

The Ward Rounds of Dr. Cohn is worth more than the price of the journal. They are fine.

In our next issue we will have a department on cancer and radiology. Dr. Beals, of Greenville, will be in charge of this.

Dr. Chas. Bloom, of New Orleans, Pediatrician, and Dr. H. W. E. Walther, Urologist, will be regular contributors to The Mississippi Doctor from now on. This will add much to the journal.

Our next state meeting goes to Greenville, the capital of the Delta over on the Father of Waters. Dr. Fishbein will be the orator of the occasion.



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The buildings of the New Fenwick Sanitarium are new and constructed especially for the class of patients it treats. They are built of pressed brick, steel and concrete, with every comfort, electric fans, steam heat, etc. All rooms are outside rooms with good ventilation and attractively furnished. The grounds are well kept and inviting with flowers, shrubs, shade trees and rest benches.

This Institution is patronized by the better class of people. Its services are offered to the discriminating physicians for the type of patients named above as a high class Institution in every sense and meaning of the word.

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MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 13.

BOONEVILLE, MISSISSIPPI, OCTOBER, 1935

NO. 5



THE THREE MOST DIFFICULT THINGS ARE:

To keep a secret, to employ time properly, and to bear an injury. Never speak evil of the dead. Reverence old age. Govern your anger. Be not over hasty. The tongue ought to be always carefully restrained, but especially at the festive board. Seek not impossibilities. Let your friendship be more conspicuous in adversity than in prosperity. Prefer loss to ill-gotten wealth, the former is a trouble only once endured, but the latter will constantly oppress you.—CHILO (630 B. C.) "From the Philosophy of Life."



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A Poor Scholar . . . because of a Poor Breakfast

MANY a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school.

Pablum offers a happy solution to the problem of the school-child's breakfast. Mothers who learn about Pablum from their physicians are delighted to serve it for it needs no cooking and can be prepared in a minute at the table—more quickly than many less nourishing foods. Pablum not only ends the bane of long cooking of cereals but in addition furnishes a variety of minerals (calcium, phosphorus, iron, and copper) and vitamins (A, B, G, and E) not found so abundantly in any other cereal.



PABLUM is rich in calcium and iron, minerals likely to be deficient in the school-child's diet yet needed in more than average amounts during childhood. Pablum is 6 times richer than fluid milk in calcium and contains 10 times more iron than does spinach. It also furnishes generous amounts of vitamins B and G, essential for normal appetite. Unlike other cereals, Pablum is base-forming, important because the growing child needs to store alkali. The nutritional value of Pablum is attested in studies by Crimm *et al*

who found that tuberculous children receiving supplements of Pablum showed greater weight-gain, greater increase in hemoglobin, and higher serum-calcium values than a control group fed farina. Reprint sent on request of physicians. Mead Johnson & Company, Evansville, Ind., U.S.A. Pablum (Mead's Cereal thoroughly pre-cooked) is a palatable cereal enriched with vitamin- and mineral-containing foods, consisting of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa leaf, beef bone, brewers' yeast, iron salt, and sodium chloride.

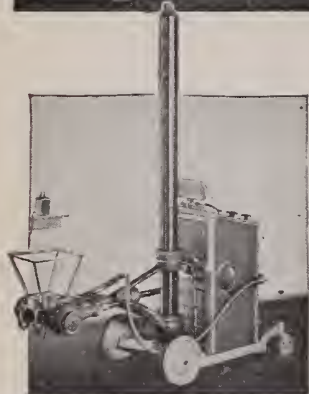
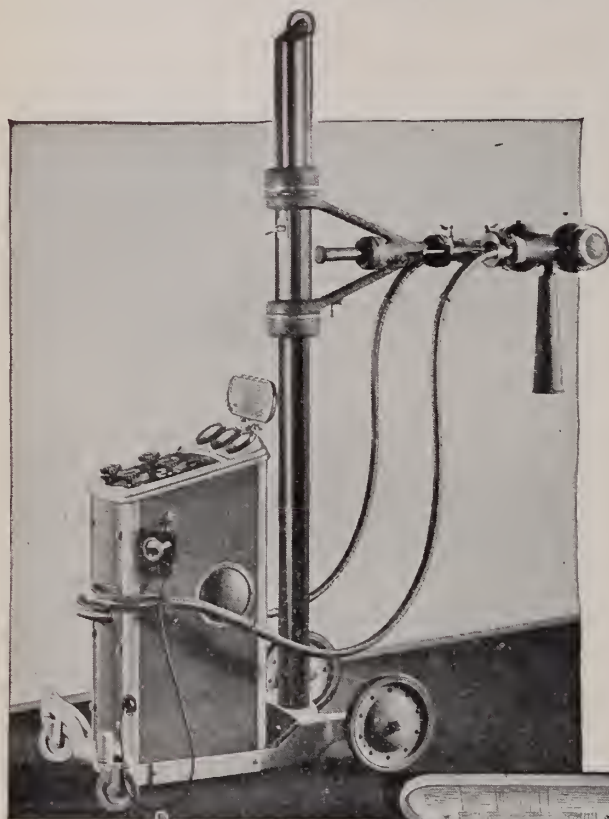
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Entered as second-class matter, January 18, 1926,
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EDITORIALS

The Mississippi State Hospital Association is investigating the proposition of buying their charts from a central agency. Each hospital would find out the number of each kind of blank needed and send in the order to the purchasing agency which would get bids and have the blanks printed. Secretary Lippincott is trying to ascertain this information from the hospitals. Each hospital should send him this information and the proposition should be thrashed out and decided upon. No doubt much may be saved to the hospitals on blanks by purchasing in big lots. People are insisting on lower hospital rates. They could be lowered perhaps. This is an item of expense that could be saved, if the hospitals think they should adopt this plan. The hospital heads may be careless in replying, they may see the other side of the question and may not be interested. Nearly all hospitals receive quite a lot from donations, donations in constructing their building, or in articles that reduce their daily expenses. Public sentiment must be kept in the proper attitude for this. The churches are nearly always active in this matter. They in turn depend largely on the local press. In our state the local paper plant furnish these blanks, as a rule. It is true that they can not be furnished at as low a cost as they could be in big lots, but the paper has already done many time as much for the local hospital as this profit will amount to and the feeling is better if the "home paper" is given the job. If you should go out for the very lowest cost you would likely send to Chicago, Cape Cod, Kalamazoo or Milwaukee as some local medical journals seem to be doing to get the printing done. Before the crash came most of the banks sent across the continent to have their blanks printed. When the crisis came they were mighty glad to get a little help from the local paper. We are trying to get away from centralization in the hospital and medical field. We should think in terms of consistency as we go along. You can't stay on the receiving line always and never give. The county paper is the hope largely speaking of the little hospital and of educating the laity to their own good and to that of the practitioner. The country weekly is called upon to do as much or more charity than the average doctor.

Hospitals should answer Dr. Lippincott promptly, but at the same time, they should consider his problem from all of its angles.

Dr. T. E. Ross Sr., of Hattiesburg, lived his allotted time and one year more, three score, ten and one. He lived it well. His life was rich in service to humanity. First of all he was an outstanding Christian citizen. He was a leader and a builder for the Hub-city of Hattiesburg where he spent the last forty-three years of his life. He was deeply devoted to his church. He supported it liberally and he lived its teachings. He was a great friend to education. He was a loyal friend to the Woman's College. It will miss him, his support, his wisdom and his guidance as a trustee. Dr. Ross was broadly educated. He was versatile. He was a close student ever and to the end. He did much for organized medicine in Mississippi. He was really and truly a corner stone in the profession. He did

not tire in his search for medical truths because he loved it so well. He kept himself informed and he possessed medical and surgical wisdom. He had the courage to follow the truth and let it take its course. He was inspired and ever driven on by his desire to serve. Service in any undertaking was his most satisfying morsel. In his manner he was cordial and gracious. Loyalty was interwoven in his every fiber, gratitude flowed through every artery, capillary and vein. He was a dependable friend. He made friends and he held them. He ministered to thousands of people who will call his name blessed the longest day they live. The State Medical Association has been greatly benefitted by his services. The Mississippi Doctor extends its sincerest sympathy to the bereaved family, especially to Dr. T. E. Jr., twice our class mate, worthy and well qualified, a cooperative comrade with his father.

And now again we have the matter of state aid for the hospitals, for indigent sick. Mississippi has five state owned charity hospitals, or state supported rather. They have done good work, are still doing all right as far as we know. But this system is out of date. Charity funds for the indigent sick should be distributed on a per capita basis throughout the state to be used on an actual cost rate at any hospital the patient may choose. Twenty cents per person, four cold drinks, per year would take care of all the actual charity of the state quite well we believe. The five charity hospitals could be kept open by the towns in which they are located if they like and they could supplement what they receive on the per capita distribution. The per capita distribution is the only fair way to do it. It is more economical for the state also. Every person in the state should have hospital service within twenty-five miles of him. We have the hospitals now to practically insure this. Under this system it makes no difference who owns the hospital, whether county, church, individual or company. It is just the simplest and most practical thing to do. Let us all join hands in bringing this about.

Read the message of Dr. Garrison, president-elect of the state medical association. His special work for this year is to increase the membership of the society. Let us all follow his leadership. Dr. Garrison is able, worthy and well qualified for the position he holds. He will lead us in the right direction. We need to develop Mississippi medicine. We have our own special problems. We have a large rural population, and a fifty percent colored. We have much charity work to do. A large percent of the best pay patients have been inclined to leave the state for their medical service. All the doctors in the state need to work together in the interest of the people and for the protection of themselves. Every doctor in the state has an idea that should be passed on. He needs to give and to receive. We can not do this without organization. The very least that any doctor can do for himself and for his clientele is to join his local society and become a member of his state association. Every doctor can give help, every one needs to be helped. We should have a hundred percent membership in Mississippi. Let us not leave anything undone to bring this about. Let us follow Dr. Garrison. Let us work as never before for a hundred per-

cent membership. In unity of effort there is much strength.

Through the courtesy of the Memphis Medical Journal you will read from the pen of Dr. G. S. Bryan an article that is brim full of good common sense on an important subject. He thinks deep and wide and his mind follows the truth like a magnet to the point. Read this article and then re-read it. Turn the mental current on while you read.

The practitioner and the public health officer should work hand in hand. This is largely true in our state. There may come a time when the practitioners will do all the preventive medicine, all the public health work, and this department will not be needed, but as it stands now it is very important.

Resolutions

WHEREAS, the Great Physician, in his Divine wisdom has called from our Society and the service of afflicted humanity, our dearly beloved brother physician, Dr. E. G. Abernethy, of Algoma, Miss., on September 5th, 1936; and whereas, Dr. Abernethy devoted his life to the best and the highest ideals of his profession, both in peace and in war, and withal, in his social intercourse with his professional brethren, and in his community, fraternal, church and domestic relations, he was a devoted, loyal, christian gentleman and a citizen above reproach; THEREFORE BE IT RESOLVED:

FIRST, That we have sustained an irreparable loss in the passing of our friend and co-laborer; but knowing that God maketh "all things to work together for good" to those who love and trust him, we can only bow in meek submission to his will;

SECONDLY, That we strive to adorn our profession and administer to the physical and spiritual needs of humanity with the grace, nobility and skill of our deceased brother;

THIRDLY, That we spread a copy of these Resolutions on the minutes of our society; post a copy to the bereaved family, and furnish copies to the county paper and to "The Mississippi Doctor."

Respectfully submitted,

R. P. DONALDSON, Chairman
W. H. REID
A. H. MCGREGOR
J. M. HOOD, Committee

DICK CAUTHEN McCOOL, M.D.

Nervous and Mental Diseases

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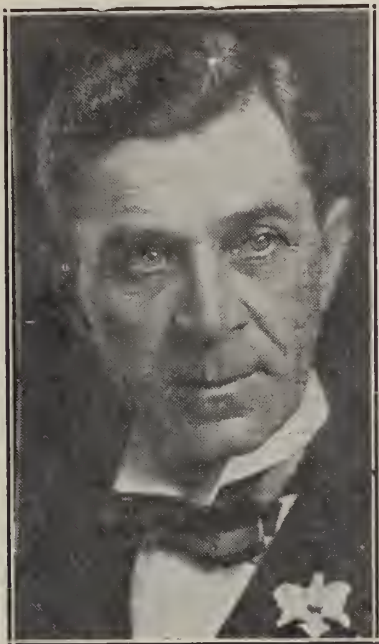
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Memphis, Tennessee

Dr. R. C. Bunting



Dr. Richard Clinton Bunting, nationally known neurologist, whose scientific skill was centered in the development of Memphis and the South, died at 8:55 last night, at his home, 1759 Central.

Dr. Bunting, whose wide practice came from thruout the South, died before the plans for a new psychological sanatorium for Memphis could be consummated. He had long hoped for the modern sanatorium which would deal with neurological and psychic cases.

Ill since April, his condition became serious six weeks ago and in two weeks he was on board a special train carrying him to Johns Hopkins Hospital in Baltimore, where he had studied neurology in earlier years.

He underwent an operation there and, seemingly better, was brought home two weeks ago. Friday he became seriously ill.

A man whose hobby had been the development of medical science in the South, he worked for years with the old Tri-State Medical Association and was active in reorganizing it into the present Mid-South Assembly, which includes Oklahoma, Tennessee, Missouri, Arkansas, Tennessee, Alabama, Mississippi and Georgia. Since its reorganization he was chairman of the program committee and he was instrumental in bringing men of national repute to its meetings.

Interested also in child psychology, he took an active part in the Child's Graduate Clinic, sponsored by the Memphis Community Fund from 1924 to 1927. Since the clinic went out of existence, Dr. Bunting had worked and hoped for its re-establishment.

A native of Wilmington, N. C., he was the son of Thomas Owen and Louise Smith Bunting, both natives of North Carolina. His father, a Confederate veteran, was a merchant at Wilmington.

Dr. Bunting attended the public schools there and also received private tutoring. Later he spent two years in the medical department of Davidson College at Davidson, N. C., from there entering the medical

department of University of Maryland, where he graduated in 1899. He interned at St. Agnes' Hospital in Baltimore for two years and returned to North Carolina to practice medicine until 1908.

At that time he went to Johns Hopkins Hospital to take up the study of nervous diseases, completing a four-year course there. He was then appointed associate neurologist at Johns Hopkins, remaining there two years.

He then came to Memphis in 1914, where he practiced as a neurologist and psychiatrist since that time. He was neurologist on the staffs of St. Joseph's Hospital, Methodist Hospital and Hospital for Crippled Children. He also was consultant on the staff of Western State Hospital at Bolivar, Tenn. A civic worker, Dr. Bunting also helped in securing the new Shelby County Hospital.

Dr. Bunting was the founder of the Southern Psychiatric Association, was connected with the Memphis, Shelby County and Tennessee State Medical associations and the American Medical Association. He attended St. Luke's Episcopal Church.

He leaves his wife, the former Miss Catherine Copeland, of Statesville, N. C., whom he married in 1910; a son, Richard C. Bunting Jr.; a sister, Mrs. Walter Toot; a brother, W. S. Bunting, of Wilmington, N. C.

Funeral services, conducted by Rev. Charles Stuart Hale, will be held at the residence on Central at 10:30 a. m. tomorrow. Burial will be in Forest Hill Cemetery, with Spencer-Sturla Funeral Home in charge.

Active pallbearers will be: Dr. Willis Campbell, Dr. E. C. Ellett, Dr. George Gartly, Dr. Louis Levy, Dr. W. S. Lawrence, Dr. Richmond McKinney.

—Press-Scimitar

Dr. Richard Bunting

"He was a real man in every sense of the word. He was known for his sincerity. He didn't cater to politics, and once he formed a friendship, he held it."

That, briefly, is the tribute paid the late Dr. Richard Bunting by a medical associate who knew him well.

Specifically, perhaps his greatest contribution to medicine in general was his work in connection with the reorganization of the Mid-South Post Graduate Medical Assembly (formerly the Tri-State). He served as program chairman and it was largely thru his efforts that the reorganization was raised to a high level and its meetings rated among the best in the United States.

Some years ago Dr. Bunting contributed liberally of his time and energies in the work of the Child Guidance Clinic which was discontinued for lack of funds. He was also frequently called into consultation in meningitis and infantile paralysis cases and he for years strongly advocated that the city maintain a supply of serum necessary for treatment of infantile paralysis, which must be obtained from eastern medical centers. Also, like all other Memphis doctors, he did much charity work in addition to his large private practice.

Dr. C. S. Beck



M.D., Johns Hopkins University 1921, was interne at the Johns Hopkins Hospital, Arthur Tracy Cabot Fellow in Surgery at the Harvard Medical School and Associate in Surgery at the Peter Bent Brigham Hospital, Crile Fellow in Surgery at the Western Reserve University School of Medicine before his present position as Associate Professor of Surgery at Western Reserve University and Associate Surgeon at the University Hospitals of Cleveland.

He has been interested in the heart as a surgical organ since 1923 and has laid a greater foundation in the problems of the heart and pericardium than perhaps any other surgeon. His experience is based on over 1200 heart operations, the more important contributions on the subject being:

The presentation of cardiac compression as a condition which requires surgical treatment. Compression of the heart is a direct opposite to dilatation of the heart and should be so recognized by doctors. Compression of the heart produces circulatory failure in a mechanical way. Being mechanical all these conditions should lend themselves to mechanical treatment, namely, surgical treatment. Compression of the heart may be acute or chronic. (Beck, C. S.: Two cardiac compression triads, J. A. M. A. 104: 714, 1935; Beck, C. S.: The surgical treatment of pericardial scar, J. A. M. A. 97: 824, 1931; Beck, C. S. and Cushing, E. H.: Circulatory stasis of intrapericardial origin, J. A. M. A. 102: 1543, 1934.)

He has shown that contusions of the heart are a very common form of cardiac injury (Beck, C. S.: Contusions of the heart, J. A. M. A. 104: 109, 1935; Bright, E. F. and Beck, C. S.: Nonpenetrating wounds of the heart, Amer. Heart J. 10: 293, 1935.) "The heart can tolerate an enormous amount of trauma and because of this the profession has failed to recognize contusions of the heart clinically. No case of cardiac contusion has ever been operated upon. We have shown that contusion of the heart should occupy an important place in the minds of the surgeons. When an area of the myocardium suffers a contusion it sometimes ruptures. The rupture takes place some-

times slowly, sometimes rapidly, but in either event a doctor should regard this condition as a surgical problem. The heart should be exposed and sutures placed to close the rupture. We developed an operation of strengthening the area of contusion against rupture by placing a graft of fascia lata or pericardium over it.

We have succeeded in giving the heart a new blood supply by operation. Experimentally we are able to ligate both coronary arteries and have the heart continue to function, deriving its blood supply from anastomotic grafts placed on the surface of the heart. This work is the result of several years of experimentation on animals. It is now being applied to patients suffering from coronary sclerosis and angina pectoris. The beneficial results of the operation are exceeding our expectations. Patients have been relieved of pain. They have become stronger and in every way greatly improved. This operation in itself is going to open up a new field of surgery."

Dr. Gilbert J. Thomas



F.A.C.S.; President-Elect of the American Urological Association; Secretary-Treasurer of the American Board of Urology, Inc.; Assistant Professor of Urology in the Medical School, and Graduate School, University of Minnesota; attendant surgeon at St. Mary's Hospital, University Hospital, Eitel Hospital, Minneapolis, Minn., and attendant surgeon at Glen Lake Sanatorium, Oak Terrace, Minn.

The next meeting of the North East Mississippi Thirteen Counties Medical Society will meet in Tupelo in December. This means we will have a fine meeting and a big attendance.

DR. SEALE HARRIS

Gastro-intestinal and Nutritional Diseases
Diagnostician

2234 Highland Avenue
Birmingham, Alabama

The Causal Relation of Focal Infection in Abortion*

DR. JAMES R. GARBER
Birmingham, Ala.

Life is impartial to all mankind in one respect, in that, for every effect there must necessarily be a cause. The logician usually pursues the mental mechanism of cause to effect, but at times, the effect to cause argument must prevail. Practitioners of medicine must remain elastic in analytical processes and the breadth of tolerance and the spirit of submissiveness must be academic even in the face of dissenting opinions, for, out of conflict emerges compromise and ultimate understanding. This predicate to this presentation is made at the outset, for the writer is conscious of the inadequacy of scientific proof of the subject matter in general and in particular, to the speaker, ex cathedra.

The subject of this discussion comes to all obstetrical attendants in a more or less similar manner. How often have we heard a patient ask: "Doctor, what made me have the abortion? Do you think I can ever have a baby? How soon may I try another pregnancy?" These questions refer to a problem that should become a matter of interest and of importance between doctor and patient. To render intelligent and constructive service the doctor MUST study an abortion in its every phase and this is accomplished only when clinical and laboratory work are correlated. The tactile sense and the eye provide the means for

*Read before the Delta Medical Society, Greenwood, Miss., April 10, 1935.

obtaining a great fund of information, but the mechanical eye of the microscope is an indispensable adjunct and especially so, in the study of the early placenta and embryo.

At the risk of being presumptuous, permit a review of the classification of the causes of abortion.

- (1) Paternal: alcoholism, general debility
- (2) Maternal: syphilis, alcoholism, uterine malpositions, uterine neoplasms, uterine and per-uterine inflammations, infections, acute infectious diseases, trauma, adnexal new growths, uterine and perineal lacerations, general debility with anemia
- (3) Diseases of the placenta and its appendages: endarteritis, infarction, cystic degeneration, abnormal implantation, abruptio placenta, thrombosis of vessels in cord, fomic knots and tortuosity, early rupture of and pathology of the amniotic sac.
- (4) Diseases of the child: malformations, syphilis.

Out of this rather extensive roll call of causes of abortion it seems unreasonable that a doctor should shrug his shoulders in admission of bewilderment and admit he cannot probably account for the abortion. It is true that an exhaustive study may yield negative results, but too often opposite facts are established and there is serious doubt that negative findings are any more discouraging or less valuable than positive findings. It is the function of the medical mind to fathom the mysteries of the ailments of the body so as to be better prepared to guide the patient along a course of safety and fruitful accomplishment. Every effort should be made to determine the cause of abortion, for the future childbearing history of a woman may depend upon a prompt and practical understand-



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ing of this phenomenon. The causal relation of focal infection to abortion is the burden of this message. The subject material was suggested as the result of an interesting clinical observation.

A patient developed an acute febrile arthritis of the spine, elbows, wrists, fingers and knees in the last week of pregnancy. The delivery was accomplished with no untoward symptoms. On the fifth post-partum day the baby suddenly became cyanotic while at the breast, having been adjudged entirely normal until that time. The following day the child developed a marked reddening and considerable swelling of two fingers on each hand, this condition persisting over a period of days. This was of real interest and because of rigid hospital technic during labor and the delivery, the cause of the condition of the baby was attributed to the mother. But, how? That is the controversial point for discussion which point might not be so questionable had only a microscopic examination of the placenta been made.

In approaching this study several pertinent questions may be considered. Does placental tissue enjoy an immunity to bacterial invasion? Does the blood vascular mechanism of the placenta provide special protection against infection? Does the uterine blood supply, during pregnancy, predispose to resistance of infection or to a concentration of toxins? Is the role of focal infection the same in the uterus as in other structures of the body?

The composition of the placental tissue would lead one to argue that its epithelial and endothelial structures would manifest the same behaviorism, in this organ, as elsewhere in the body. These cellular entities in the placenta have an identical histological description as the epithelial and endothelial cells in other organs and are capable of similar physiological and pathological processes. If bacterial invasion takes place in these structures in various parts of the body why should the same cells in the placenta enjoy an immunity to such action? Let us review the pathological picture of a diseased placenta and decidua. Edema of the tissue, necrosis, leucocytic infiltration and blood vessel changes are the most prominent findings. In a series of forty abortions in the writer's private practice examined by a competent pathologist, the following results were obtained: 65.9% of the total number of abortions studied showed some infection. 31% showed edematous tissue. 41% showed necrotic tissue. 34% showed leucocytic infiltration and of this 34%, 10.2% showed marked infiltration of mononuclear cells; 6.8% generalized leucocytic infiltration; 3.4% lymphocytic infiltration; 3.4% endothelial infiltration; 20.6% were uterine or decidual tissue; 6.9% were cystic formation. As recited, these percentages may appear out of balance, but the imbalance is due to the fact that in some specimens both endometrous and necrotic tissue were observed. This tabulation would be duplicated in a microscopic report of infected tissue from any place in the body. It seems, then, if not from better judgment, but from caution in clinical work, to admit that placental tissue does not enjoy an immunity to bacterial invasion.

To better visualize the problematical transplacental course of infection, a short reference to the anatomy and histology of placental circulation may be helpful. J. P. Kearns, of Montreal, has presented this matter most interestingly. He claims that in the

region of the decidua basalis in the early weeks of pregnancy, there is a thinning and dilation of the arteries and veins of the uterus and an increased or more rapid flow of blood. He further shows that the distal end of the arteriole which eventually enters the intervillous space and is an advancing blood sinus in the decidua, becomes dilated. There is a concurrent proliferation of endothelial and epithelial cells and as the processes meet in the decidua, the dilated arteriole becomes lined externally with epithelial trophoblastic cells and the maternal space is finally broken down by the proliferation of the chorionic epithelium. The base of the intervillous space, that becomes dumb bell shaped, is toward the fetal surface of the placenta, thus permitting the villi to project into the sinus and as a result, the maternal blood flows freely against the chorionic epithelium. Experiments have shown since saline solution can be freely driven from the veins to the arteries, a continuous circuit of blood in the placental vessel is established and the existence of reticulo-endothelial structure near the venous channels of the villus is thought to play an important part in the circulatory mechanism against toxic and foreign body material. These studies are not complete and in part have not been substantiated, but enough data has been elaborated to justify a speculation in mechanics. The thinning and dilatation of uterine vessels, the arrangement of the intervillous spaces, the projection of the villi into the sinus, the continuity of circulation in placental vessels and the presence of epithelial and endothelial tissues that are subject to factors of change and chance, these facts render the assumption rather competent that the blood vascular mechanism of the placenta does not provide special protection against infection.

From the preceding remarks on the histology and anatomy of the placental circulation a step further in the discussion may be taken. Does the uterine blood supply, during pregnancy, predispose to resistance of infection or to a concentration of toxin? One group might contend that more blood would build resistance while another might hold that on account of more blood there would be more toxins in the circulation. The writer prefers to cast his lot with this latter group. It is well known that there is an increased amount of blood in pregnancy and that there is more flow of blood in the uterine vessels. Should a foci of infection exist in the body and under the above mentioned favorable conditions, promoting the elaboration of toxins, it seems inescapable that the site of the placenta and decidua would be less vulnerable to attack of infection. The usual focal infection has a

THOMAS D. MOORE, M.D.
UROLOGY and UROLOGIC SURGERY
Suite 102-6
Physicians and Surgeons Building
899 Madison Avenue
Memphis, Tennessee

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definite bacterial complex and with newly developed membranes and with changes in those existing before the onset of pregnancy, and where intimate interlocking of one with the other takes place, the role of infection, as a causative factor in abortion, should receive approval.

Is the role of focal infection the same in the uterus as in other structures of the body? The uterus, during pregnancy, is a great work shop and as a result of gestation makes unusual demands upon the entire organism and affects it in various ways. This correlation is clearly defined in the reaction upon the mother of histamine and guanidine resulting from infarction of the placenta. If a local intrauterine development can cause untoward systemic changes in the maternal host why cannot a disorder, as infection in the mother, be reflected in the uterus and the products of conception? Infection causes pyelitis, arthritis, endocarditis. Does it cause abortion? The theory of immunity is applicable to every infection. Microorganisms grow and reproduce in a medium best suited to that particular organism. Different parts of the body have certain organisms which are of no harm, yet when that particular microorganism gets into a medium more suited for its growth it may cause a local infection to set up. The fighters for immunity are not always strong enough to overcome their toxins and kill the infection. We think of most microorganisms as having an outside inlet. A great many times abortion caused by infection are from the outside of which we do not know. However, in some cases we are sure of no outside interference. How do these microorganisms get there? The one

great means of transportation of the bacteria is the blood stream. Does it get to its local point through the blood? We do not know and therefore can only compare it with other infections. Arthritis, one of the greatest studied diseases is being treated by a vaccine made of the streptococcus AB13 developed by Cecil. He grew this organism from fluid from the joints of arthritic patients. Again the question arises, how did this microorganism get to the joints? Why could not the blood carry it? The blood culture did not give this organism. Suppose the blood had been cultured before this local infection set up, is it not probable that he might have found the same organism in the blood? Zinzzler states that in cases of chronic sepsis in which bacteria may be again and again isolated by blood culture from the circulation it is more than likely that the organisms are constantly present, not because they multiply or maintain themselves in the circulation, but rather because they are being continuously discharged into the blood from an established focus in the tissues as, for instance, on a heart valve. In certain cases it appears that the blood may be flooded with bacteria which, nevertheless, disappear after the focus of infection has been removed. In the light of Zinner's enunciations, confronted with possible oral, pelvic and abdominal foci of infection in pregnant women and familiar with the impetus in growth of bacteria where the Ph (hydrogen ion concentration) is unbalanced, as is invariably the rule in obstetrical cases, it is difficult to turn aside from such monitors of science and present a brief that would run counter to the major role of infection

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in the uterus as a cause of abortion.

The writer reiterates the absence of proved facts in this entire discussion. But, is it necessary to abandon conclusions that are calculated to promote safer and more conservative work simply because specificity is the missing link? There is positively no doubt of pathological findings in the tissues from some abortions. Then, this means bacterial invasion has occurred and no matter the route of entrance, this problem is of a positive nature and must be approached accordingly.

There will be no attempt made to dwell upon the detailed conduct of an active abortion. However, it should not be amiss to generalize upon this topic so as to cast upon the foregoing remarks a semblance of justification for having brought the matter to your attention; so as to cradle the hope that those committing transgressions in this phase of maternity endeavor may be chastened by thoughts of factual significance.

Infection from within and from without must be borne in mind when dealing with the operative procedure in abortion. Consequently, creating new avenues of entrance for bacteria into uterine structure must be faithfully avoided and under every circumstance, the natural process of cleansing and expulsion from within out or from above down must be the talisman of intelligence and probity. It remains an utter mystery how a physician can use a curette in the active stage of an abortion. It matters not whether the curette is dull or a spoon instrument, whether made of gold, silver or pewter, a mystery it remains. Why should not the obstetrician be guided by the precepts of the surgeon and why should not surgeons that perform obstetrical work be guided by the same precepts when dealing with infected wounds? The surgeon does not probe and probe in an infected field nor does he go past the barriers that are set up to limit an infection. The placental site is a potential surgical wound and demands utmost respect. In the absence of definite knowledge of the existence of infection in any given abortion, it seems mete and just that a plea be made for a consistent consciousness of the causal relation of infection to abortion.

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It is interesting to note that a fair average of the length of time an infant receives Dextri-Maltose is five months: That these five months are the most critical of the baby's life: That the difference in cost to the mother between Dextri-Maltose and the very cheapest carbohydrate, at most is only \$6 for this entire period—a few cents a day: That, in the end, it costs the mother less to employ regular medical attendance for her baby than to attempt to do her own feeding, which in numerous cases leads to a seriously sick baby eventually requiring the most costly medical attendance.

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The doctor should strive to prescribe a specific drug for a specific disease.

Head Injuries and Their Treatment*

DR. L. B. OTKEN
Greenwood, Miss.

The subjects, head injuries and skull fractures, have received much attention in the last few years, due, first, to the fact that these cases have increased tremendously in number, and second, to the marked change in treatment in the last decade. In 1933 there were 33,500 people killed in the United States by automobile accidents alone, and according to the Travelers Insurance Company there were, in 1933, 850,700 non-fatal injuries due to transportation. In 1934, 36,000 killed, 1,000,000 injured. Since a large number of these cases eventually find their way into the courts by way of damage suits, it behooves us to handle these cases with the utmost care, not only for the future well-being of our patients, but also that our care and treatment may not be held before the court and public for examination, and perhaps, criticism.

Mock, in a recent review of over 20,000 cases of head injury occurring since the beginning of this century, notes that the treatment in each decade has varied considerably. From 1900 to 1910 the treatment was conservative, 1910 to 1920 decompression operations were in vogue, with an unusually high mortality; 1920 to 1928 conservatism again became the choice, with prolonged rest in bed and supportive measures. Recently, newer ideas have been adopted, notably, the work of Temple Fay, whose contri-

*Read before the Delta Medical Society, Greenwood, Miss., April 10th, 1935.

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bution is the establishment of the so-called dehydration therapy upon sound physiological principles. It is well recognized that in these cases it is not the skull fracture that is of importance, but rather, the amount of damage that has been done the brain, its membranes and vessels.

PATHOLOGY—From a pathologic viewpoint, two questions arise in every head injury:

1. Is the skull fractured? If so, depressed or linear, simple or compound? Location?
2. Is there cerebral damage? Is it simple contusion with edema? Is it numerous small hemorrhages (often called concussion)? Has there been a laceration of some of the vessels with resultant epi—or subdural hemorrhage? Has there been a laceration and hemorrhage of the cortex or medulla or subarachnoid space and to what degree? And, with any of the above, are the edema and hemorrhage increasing the intracranial pressure?

The rational of intelligent treatment will depend upon the correctness of your diagnosis. "In court one cannot testify to what he thinks was the condition of the patient. The record must show what actually was found upon examination."

Linear skull fractures are, of themselves, of little importance, but when X-rays show these fractures traversing a mastoid, or ethmoid region entering a frontal sinus, then the surgeon must be on the alert for a possible infection with a resulting meningitis. The same is true of slightly depressed fractures which are only slightly important, but the markedly depressed fractures, or fractures of the

inner table, with fragments of bone piercing the brain substance, are of grave importance. At times, due to edema and hematoma, these conditions cannot be diagnosed by palpation. By X-ray alone can we make a correct diagnosis. The closest observation of signs and symptoms and the use of sound surgical judgment are necessary if the pathology of the brain is to be correctly diagnosed in the majority of these cases. Even then, there will be many mistakes as small hemorrhages, with marked edema, will give the same clinical picture as a laceration in the cortex with hemorrhage. The latter is a fatal condition, the former, a condition amenable to proper treatment.

SIGNS AND SYMPTOMS: Shock is present in the majority of head injury cases, especially the cases of skull fracture. In addition to the usual picture of shock we have added the condition of cerebral shock. We are accustomed to describe general shock, as accompanied by marked pallor, thready pulse, cold clammy skin, shallow rapid respiration, sub-normal temperature, lowered blood pressure and often syncope. With brain injury, depending upon the amount of damage, this picture of general shock is changed by the early signs and symptoms of the cerebral injury. Instead of syncope, there may be prolonged unconsciousness. The respiration, instead of being shallow and rapid, may be slowed, even stertorous and in extreme cases the Cheyne-Stokes type. The pulse, instead of weak and thready, may be slow and full; instead of a low blood pressure, we may have at first a high blood pressure, which may fall markedly in a few hours. It is difficult to differentiate between the picture of shock seen in all severe injuries and cerebral

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shock which may be so changed by the extent and location of the brain lesion.

According to Mock (1) disturbed consciousness was present in 88 per cent of his cases—varying from a short period of dazed or semi-conscious condition to marked unconsciousness or coma. Most of these patients regain normal consciousness in one to three days. Prolonged periods of unconsciousness may leave a damaged brain, although cases have been recorded where the patient was unconscious for two or three weeks, without brain complications. Extreme restlessness, coma, or delirium are evidence of marked brain damage, or markedly increased intracranial pressure. With the patient in coma the difficulty lies in the correct interpretation of the signs present.

The pulse varies with lapse of time since injury and with the size and location of the brain lesion. In general shock it is fast, weak, thready; in cerebral shock, usually slow and full. If medullary centers are involved or with development of edema or hemorrhage, enough to cause medullary compression, the pulse rate will increase and may become very rapid but full. In most cases the pulse runs 60 to 90, but if increased intracranial pressure comes on slowly the pulse slows—perhaps as low as 40. In all cases except those of direct medullary injury, the pulse slows. The respiration rate acts in the majority of cases very much like the pulse rate. If there is medullary damage, we have a fast respiration soon changing to a Cheyne-Stokes. If there is sub or epidural hemorrhage the respiration is slowed and soon becomes stertorous.

In view of these facts, it is imperative that blood pressure be taken often, that pulse and respiration be accurately counted and charted every hour. The temperature, as a rule, varies from sub-normal to 102. If 102 or over, it is indicative of infection or of medullary compression. The reflexes change so rapidly and may show such wide variation that it is difficult to interpret their significance correctly. The pupils may show valuable signs—a dilated pupil is indicative of hemorrhage on that side. In early fatal cases, the pupils may be markedly constricted, or fixed, or unequal. Fixed pupils, accompanied by persistent coma, are bad prognostic signs. Bleeding from nose or ears or cerebral fluid from the ears are *primae facie* evidence of skull fracture, usually basal. Focal findings are the peripheral manifestations, which help us to localize the area of damage within the brain. The cranial nerves may be injured at or near their exits from the skull and give rise to such symptoms as blindness, deafness, facial paralysis, or ptosis. You must differentiate between a central and a peripheral nerve lesion.

GENERAL EXAMINATION: This must be as thorough as the condition of the patient will permit, remembering that there may be other obscure injuries. Extensive physical examinations should not be attempted while the patient is in shock. X-rays and complete neurological examinations only add to shock. Never X-ray the head case in the presence of shock delirium or coma. The over-zealous examination may cost the life of the patient. There is nothing to prevent the surgeon's re-examination of his patient. Before taking up the treatment of the various types of head injury, let us discuss a few of the controversial points.

X-rays: Dandy (2) questions the advisability of X-rays in Skull Fracture. In Mocks' cases, in 4% the head injury seemed trivial, whereas, the X-ray showed extensive skull fracture. Without the X-ray, these cases would have been allowed to leave the hospital and even return to work—developing, perhaps, serious sequelae. Positive evidence of skull fracture is necessary in some cases for proper treatment.

In depressed fractures, it is necessary to determine the extent of the depression. But, again, let me remind you that in cerebral shock the transportation of the patient to the X-ray room and the taking of numerous views of the skull, may be the additional insult that spells death for the patient. "The X-ray can always wait until the patient can surely tolerate the ordeal."

Lumbar Puncture: Drs. Wright, Greene and Smith (3) advocate lumbar puncture in all skull fracture cases. Drs. Dandy and Sacks are opposed to the procedure in any case of head injury. The majority of surgeons are in favor of lumbar puncture in acute cranio-cerebral injuries when performed slowly and in the horizontal position. Few use it routinely.

Dehydration: It is of questionable value in cases of severe injury to brain with hemorrhage from brain or dural vessels. According to Finesilver and Eiss (4), in cases of concussion with edema of brain, it is of real therapeutic value. Subtemporal decompression: This is not as popular a procedure as it was twenty years ago. Mock thinks it is indicated in not over 2% of the cases, Dandy in 10% of cases seen.

GENERAL RULES FOR THE TREATMENT OF HEAD INJURIES

1. Treatment of shock is the primary consideration. Treat the head injury as near the place of occurrence as possible. Do not subject the patient to a long ambulance ride to get him to a specialist—bring the specialist to the patient. Do not disturb unduly for examinations. Do no lumbar punctures, X-rays, or dehydrate until shock is overcome. There are exceptions to all rules—try to use good surgical judgment and do not overlook associated injuries.
2. Do not treat head injuries as trivial. Consider them serious until proved otherwise. Do not be satisfied with the obvious diagnosis. Your patient may have a ruptured spleen or liver requiring emergency treatment.
3. Do not give morphine. Do not add the depressing effects of morphine to an already embarrassed respiratory center.
4. Make routine blood and urine examinations

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when shock has passed. If open wounds are present, give anti-tetanic serum, but not at once—wait until patient can withstand the reaction.

Adson (5) says: "Conservative treatment is advisable." Obviously, lacerated scalps and depressed fractures need surgical attention and the surgeon must elect the time most suitable for such procedures. In some cases the injury is so extensive and the shock so profound that death is inevitable and any attempt at surgical repair is unwarranted. In other cases, it is apparent that hemorrhage is in progress and immediate exploration is necessary, even though there is no evidence of recovery from shock. In most injuries of the head, without depressed fracture, the non-operative, dehydration procedure appears to offer the best results. For the purpose of outlining treatment for the various types of head injuries, I do not think the classification as suggested by Mock and by Horrax (6) can be improved on.

CLASS 1. Patient conscious and rational, cerebral damage slight, concussion, evidence of skull fracture by Roentgen examination only. Treatment: Rest in bed for two to three weeks, under close observation, ice pack to head, bromide and chloral by rectum, 50% sol. magnesium sulphate by rectum, rarely one or two lumbar punctures.

CLASS 2. Those who show evidence of considerably more intracranial damage than is ordinarily implied by the term "concussion," the head injury generally being associated by linear fracture of base or vault. Treatment: Rest in bed two to three weeks, bromide and chloral or one of the barbiturates by rectum, combat shock.

Combat increased intracranial pressure

A. By magnesium sulphate

B. Hypertonic solution intravenously, glucose, prevent dehydration and starvation.

Local Treatment:

A. Scalp wounds, compound fractures,

B. Discharging ears or through sinuses

C. Swollen eyes

D. Associated injuries

CLASS 3. Those requiring special treatment—lumbar punctures. These are the cases with persistently disturbed consciousness, persistently slow pulse and respiration with remarked change in blood pressure. Signs of persistent or of returning increased intracranial pressure, the appearance of papilledema, signs of meningitis or of meningeal irritation. Treatment: The same as for Class 1 and 2, plus lumbar punctures, the number of punctures depending on the response of the patient to the treatment.

CLASS 4. Those with definite indications for surgical treatment. This includes:

1—Definitely depressed skull fractures

2—Signs of middle meningeal hemorrhage

3—Subdural or epidural hemorrhage, giving focal conditions.

4—Compound skull fractures, where fragments of bone and devitalized soft tissue must be removed. Under this heading comes the gunshot wounds, where the skull fragments are driven along the course of the bullet. Remove clots and pulped brain with catheter and syringe, remove bullet if easily accessible. Do thorough debridement of wound of entrance

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and exit—drain.

- 5—Subtemporal decompression, seldom indicated, but may sometimes be used when dehydration and lumbar punctures fail. In all operations on the head, if possible, do under local anesthesia.

CONCLUSIONS

1. The rapidly increasing number of head injury cases, causing an extremely high death rate, makes this one of the vital economic and medical problems of our time.

2. It is difficult to standardize treatment of head injuries as each individual case presents its own requirements, but the routine treatment as outlined, will cover a large percentage of the cases. The rest of the cases can be classified for treatment under the following heads:

- 1—Rest treatment alone
- 2—Rest treatment, plus dehydration, local treatment for associated injuries.
- 3—Rest treatment, plus dehydration and with lumbar puncture.
- 4—Those with definite indications for surgical intervention.

If the doctor will learn to delay all unnecessary examinations, X-ray studies and operation (except in occasional cases) until the period of shock is over, and the patient is in a suitable condition for such procedure, he will develop for himself a good common sense line of treatment that will greatly reduce the death rate for cranio—cerebral injuries.

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Recent Developments In Cancer Research. A Review of Literature*

DR. J. A. BEALS
Greenville, Miss.

"Reflect for a moment upon the magnitude of the problem. Here we stand, faced by the cancer cell, a foe so small that it cannot be seen, so tireless that it proliferates indefinitely, so relentless that it gives no quarter, so despicable that it wears no distinguishing uniform." (W. H. Woglom, Am. J. Cancer, Jan. 1931.) Yet scientific knowledge of how mankind could combat this dreadful foe awaited the close of the past century. Until then our defense had been crude, empirical and futile. Only within the memory of men now living has surgery made notable headway against these vicious cells in mass. More recently radiation and education of the public have contributed to our defense.

At the beginning of this century studies on the pathologic anatomy of cancer had reached a fairly complete development. The Conheim theory of embryonal cell rests seemed to adequately explain the cause of cancer. Bacteriology had failed to shed light on the cure or the true cause of cancer development. Chemical investigations were in progress, but their results had not been very fruitful.

Since the beginning of this century important discoveries have been made. Jensen (Copenhagen), Loeb (Chicago) and others discovered that some of the true neoplasms of animals could be transplanted from one animal to another of the same species. The Jensen mouse sarcoma has been thus transplanted for thirty years. Transplantation to a different species has been accomplished with difficulty. Records of transplantation from one human to another are of doubtful authenticity. Factors which stimulate, inhibit or even prevent the growth of transplantable tumors are very numerous and have been studied intensively. Up to the present none of the knowledge acquired from this source has been found effective for the cure of human cancer.

Knowledge that living cells could be grown artificially on culture media, and observed with the microscope, has given rise to extensive research on the physical, chemical and serologic conditions governing cell growth.

Certain Japanese investigators (1914) discovered that some kinds of tar applied to the ear of a mouse frequently and for a long time, resulted in the induction of a malignant epithelioma.

The work on heredity in relation to the spontaneous neoplasms of animals has been pursued diligently, notably by Maude Slye in this country, who has accurate records of 90,000 mice, their heredity and the incidence of cancer in various strains.

These developments, together with notable improvements in methods of chemical and physical investigation, have greatly stimulated cancer research.

*The American Journal of Cancer has been the chief source of this review. In its abstracts this journal surveys the world's literature related to all phases of the cancer problem.

Concerning the cause of cancer development the germ theory has not been abandoned, though generally discredited. Recently (1931) Gye & Purdy of England (Amer. J. Cancer, Sept. 1932, Book review.) have published a large volume defending this theory, based largely on their years of careful and conscientious work. Their work is based largely on researches with plant tumors of bacterial origin and the sarcoma of fowls discovered by Rous of the Rockefeller Institute. The plant tumors produced by inoculation with a specific type of organism are not generally accepted by pathologists as true neoplasms, but rather as benign tumors of the nature of a granuloma, though of course the plant has no method for production of metastases. Certain tumors of fowls, such as the Rous sarcoma, are a distinct exception among all animal tumors in that they can be transmitted by a cell free extract, resist drying and preservation in glycerine, and reproduce the typical lesion after passage through filters which withhold bacteria.

Bacteria have long been cultivated rather regularly from cancers, but have never been shown to have a casual relationship. Recently (Oct. '31 Am. J. Cancer) Saunders reports the isolation of a streptococcus from cancers of breast, uterus, stomach and colon, which is anaerobic, pleomorphic, very virulent when first isolated and later becomes aerobic and identical with enterococcus. Saunders speculates on the possibility of this streptococcus, of enteric origin, acting as a source of chronic irritation in certain tissues susceptible to the development of cancer.

The most startling claim of a bacterial cause of cancer comes recently from the laboratory of Pro-

fessor Askanazy (of Switzerland) whose reputation leaves no question of his honesty. Bellows, working in his laboratory, reported the production of sarcoma in albino rats by the intraperitoneal injection and feeding of tomato juice. An organism related to *B. subtilis* was isolated from the tomatoes, which likewise produced sarcoma in rats. The finding was so contrary to all previous results at the hands of others that duplication of the experiment has been attempted in many other laboratories, but with complete failure to produce a malignant growth. Later Askanazy himself was unable to produce the results again.

Wood, editor of the American Journal of Cancer, can find no explanation except on the basis of some laxity of technique.

The question of what causes a cell or group of cells to start growing in the abnormal fashion we recognize as cancer seems very fundamental and related somehow to normal growth and regeneration of cells. What causes the ovum to develop so rapidly, yet by a very fixed pattern, and its progeny of cells to all but cease developing at a certain point we call an adult? Why do cells of this adult regenerate after injury, but only to a point which repairs the injury wholly or in part? Some complex chemical mechanisms must be at work in this mystery of life, which, if we could but come upon the key to its solution, would also solve the problem of cancerous growth. Research workers from many fields are diligently searching for this solution.

One of the most fascinating conceptions seems to have arisen from the established fact that sulphur is essential to the vital processes of cells. Hammett,

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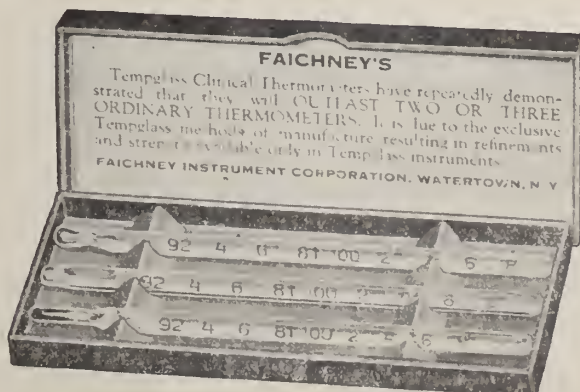
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of Philadelphia, considers that compounds having the S H radicle—sulphydryl—are essential to the reproduction of cells and that sulphydryl in excess is the primary and necessary stimulant of mitosis; further more, the oxidized sulphydryl which results from its chemical reaction within the cell (nucleus) is the inhibitor of cell growth.

The idea was extended by Hammett and by Reymann, to explain the cause of cancer by assuming that certain strains of cells inherit a heightened susceptibility to this cell dividing stimulant, sulphydryl, as well as a chemical instability of the chromosomes which govern normal differentiation and organization of the cell; further, that once a defect in chromosomes is developed, it is transmitted to subsequent generations of cells, resulting in the abnormal cell mass we recognize as cancer. (Reinmann, Amer. J. of Cancer, July, 1931). The theory is supported by the finding of sulphydryl in increased amounts in the growing parts of plants, and in embryos, and in cancer (glutathione.) It seems also to embody the modern conceptions of heredity and the relation of irritation to cancer development. That it is by no means a fully accepted theory is attested by the critical review of Heupel (Arch. Path. 1934).

An outstanding work on the physiologic chemistry of living normal and cancer cells has been developed in recent years, by Warburg. His work has given rise to a new conception of the etiology of cancer and attempts at a new form of treatment. Warburg's results have been verified and amplified by Dodds of Middlesex Hospital, England, and reviewed Oct. 31st in Am. J. of Cancer.

Warburg's method is unique in that he cuts thin slices of tissue and immerses them, still in living condition, in various media appropriate for the study of any interchanges which result from the physiologic processes of the cells. He has established that cancer cells in the absence of oxygen show a defect in their utilization of glycogen, producing more than a normal amount of lactic acid, as compared with most normal cells. This difference however, is possessed by certain normal cells as well. Warburg believes that accumulation of lactic acid in tissues leads to active growth. Acting on this Fischer has proposed a therapeutic measure to be tried on inoperable cancer, intending to induce the formation of lactic acid. The method consists of breathing an O CO₂ mixture of high oxygen concentration together with the artificial production of an acidosis by giving mineral acids. Fischer reported encouraging results but Iund and Hamilton of Boston City Hospital, as well as others, who have faithfully tried the method, report no favorable results.

Warburg also has shown that the Cancer cell exhibits a definite difference as compared with normal cells in its conversion of glucose into CO₂ and water, resulting in an abnormal respiratory quotient. This difference is more specific for cancer cells. Both functions, glycolysis and respiration, are thought to depend upon cellular enzymes and Warburg's efforts have been directed toward discovering the nature of these enzymes, but his results have not been decisive.

Fischer, (Amer. J. Cancer, Book Review, Oct., 1931) an able and original investigator, in a recent book dealing largely with tissue culture, concludes

that the results of twenty-five years' experimentation have shown no properties peculiar to malignant cells not possessed by normal cells, under certain circumstances. Differences, often marked, do exist but they are quantitative and not qualitative. Even normal cells can be grown in vitro, indefinitely. In general cancer cells are less resistant to variations in the media in which they are grown than are cells of normal tissues. The life of the cancer cell is, in general, shorter than that of the normal cell, although the loss is rapidly compensated for by the reproduction of new cells.

This capacity for unlimited growth possessed by both normal and tumor cells is released, he believes, as are ordinary regenerative processes, by injury. It has never been determined why the life of an average cancer cell is relatively so short when grown in cultures. Whether the cell products resulting from the death of cells acts to keep up active reproduction is not definitely known. Fischer refrains from more than an implication that the cause of cancer may be a question primarily of too rapid cell death.

The spontaneous regression of cancers has long been recognized as a rare but actual occurrence. In animals it is more common and many methods have been evolved, such as treatment by certain dyes, salts of heavy metals, and the injection of formalin, to induce regression. None of these methods have proven successful in a high proportion of animal tumors, nor have they been applied to human cancer with appreciable success, except for the intravenous injection of colloidal lead as developed by Blair Bell in England, and by others. But the fact of spontaneous regression and the marked natural immunity of certain strains of laboratory animals have given rise to a great deal of experimentation proposing to induce immunity or to cure the cancer by immune serum. The best results have been obtained by Lumsden of England who worked on the problem for years. He has been able to show by the effect upon cancer cell cultures that an immune serum could be produced which would kill the cancer cells and not the cultured normal cells. However, the mechanism of immunity was complicated by several factors, including a natural immunity of the serum of one species against any cells of an unrelated species. Lumsden was able to isolate, at least partially, a cancer antibody in serum of immunized animals. Curiously the antibody does not seem to be specific, for antibodies have been produced

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Study and Treatment of Cancer.**

which kill mouse cancer cells, by immunizing with human cancer, spermatozoa, or embryo skin.

His next step was to try to induce regression of transplanted and animal tumors by injection of his immune serum. This he was able to do only by restricting the circulation of the tumor for a time after injecting the immune serum in and around the tumor. But when two tumors were implanted, and one caused to regress by this treatment, the other also simultaneously regressed.

Later he brought about the slow disintegration of a transplanted tumor by injection of 1% formalin within the tumor. He found that when he was successful in doing this, a second untreated tumor would also disappear.

He is now experimenting with a strain of rats in which a mammary carcinoma develops spontaneously, hoping to cure spontaneous tumors by the same methods which were successful in a high percentage of transplanted tumors. He has not worked long with the spontaneous tumors but reports encouraging progress.

He has yet to try his method on human cancer, but the outlook would seem hopeful.

While many agents have been found to effect regression in transplanted and even spontaneous animal tumors, the attention is arrested by the report of Murphy (Am. J. Cancer Sept., 1933) because of the eminence of the author. He is said to have been able to induce disappearance of primary mammary carcinoma in mice in about one third of the animals, by

intraperitoneal injection of an extract from placenta and from embryo skin.

Every issue of the Journal of Cancer carries a number of references dealing with laboratory tests for the presence of cancer. Many tests have been evolved, some purely chemical, some physical, others serological. None seems to be specific or to carry a high degree of diagnostic accuracy, especially in the early stages of cancer.

Pathologists have realized, for a long time, that there probably is no specific characteristic of a cancer cell which is never observable in a normal cell, especially those which regenerate following injury.

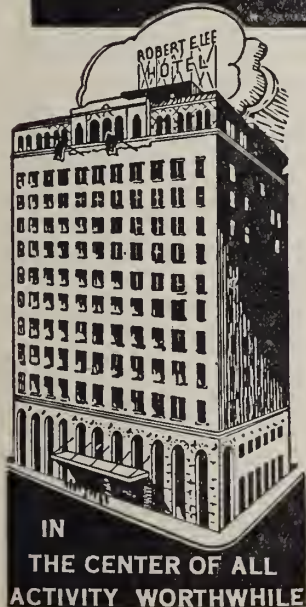
MacCarthy (Am. J. of Cancer, Feb. 1934) makes the strongest claim for the existence of one essential difference. He claims that on the average the nucleolus of a malignant cell is measurably larger in proportion to the size of the nucleus than it is in the case of normal or regenerative cells.

In the same journal it is reported that Ludford (a leading British pathologist) finds a difference in vital staining properties with trypan blue, in his work on animal tumors.

The Conheim theory of embryonal cell rests as explaining the origin of all cancers has been abandoned for the most part for it fails to explain all the newer facts learned about cancer within the past thirty years. In truth there is no theory at present which fits all the facts. One of the later and more prevalent theories is that of somatic cell mutation; i.e., that at least in many instances of cancer development, one,

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or a few normal cells of the body, instead of reproducing themselves according to their inheritance, suddenly develop mutations or sports, just as plants, and perhaps animals, of a fixed type are known to occasionally develop sports which breed true to the new type. This, of course, is scarcely susceptible of proof.

Wells, a pathologist of long experience, gives an admirable discussion of "the nature and etiology of cancer." (Am. J. of Cancer, July, 1931.) He reviews the work of Maud Slye, who by inbreeding rats has been able to produce strains for which the incidence of cancer varies between 0 to 100%. Furthermore a strain which develops one type of cancer, may never develop another form of growth, which is regularly occurring in a second strain of rats. Wells believes that Slye's results can be accepted for humans although in view of their mixed and unknown ancestry proof is impossible for humans. Slye's work seems to show that there is not only a bodily inherited predisposition but an inherited susceptibility affecting tissue groups and organs. This explains why a given irritation, or stimulation to growth, such as tar painting, acting identically on two unrelated individuals, produces cancer in one and fails in the other.

Wells states that spontaneous cancer has been reported in every species of the animal kingdom studied, though not the invertebrates or plants. Furthermore, that in those species most fully studied the incidence and relative age of development are practically the same as in men. Not all species develop a given type of malignancy with the same incidence; as an example, carcinoma of the stomach is rare in rats, but common in man, while both man and rats have about the same incidence of malignancy when all forms are combined. This he explains on specific differences in species and racial heredity. We see a common racial variation in mankind in the high proportion of uterine fibroids in the negro, yet in those institutions which have studied with equal care malignant conditions developing in both races, the incidence of tumors of all kinds is found to be the same for both negroes and whites.

This review of abstracts gives the impression of a growing conviction among competent observers that two factors necessarily act together for the production of cancer. One is an inherited susceptibility possessed by the species, by the race and by organs and tissues of closely related members of the same family. The other factor is some form of irritation, acting chronically and over a long time on normal tissues, inducing in them normal regeneration or an abnormal reproduction, conditioned upon their inherited resistance or susceptibility. Some things are known about the character of certain irritants, although the irritating factors may be quite different, and may include the toxins of bacterial growth, if not the actual presence of living organisms in the site of tumor production.

In many animals cancer can be induced by painting the skin at intervals of once or twice a week, for a period of months, with a weak solution of tar. The carcinogenic agent in tar has now been purified, and very active synthetic compounds have been produced. All of them possess the phenanthracene ring, which relates them to certain normal constituents of cells, especially to some of the products of cellular necrosis, and to at least one hormone, folliculin. This rela-

tionship lends emphasis to the irritation theory of the cause of cancer. However, the development of tar cancers is not proportional to the concentration of the carcinogenic factor in the solution applied, or to the frequency of application, but depends most upon the induction of a low grade irritation acting over a time which corresponds to years in the life of a man.

These observations correspond closely with what is known of cancers developing as a result of work in certain industries. These have been discussed recently by Haagenson (Am. J. of Cancer April 1931) reporting from the large material of the Memorial Hospital. He says that coal miners are not more subject to cancer than other laborers. Those who work in the manufacture of tar and pitch, workers in gas and coke ovens, and others handling these products in other industries, all show a high incidence of epitheliomas of the hands, face, arms and scrotum. The scrotal cancer of the chimney sweep has long been recognized in England. Those whose work brings them in contact with certain lubricating oils, shale oil and paraffin, likewise show a high incidence of cancer. Workers with aniline dyes often develop papilloma of the bladder, which subsequently becomes malignant. The cancer of arsenic workers and users is well known. The significant thing is that none of these agents produce cancer except after a few to many years continuous exposure, in which an element of trauma is often included.

That a chemical irritant is not always directly responsible is shown by the development of X-ray and radium cancers, and the known predisposition of outdoor workers subject to sunlight to develop epithelioma of the exposed parts.

That a parasite may induce malignancy is indicated by the development of sarcoma of the liver in certain susceptible strains of rats affected with a cystocircus.

That the products of cellular necrosis may serve as an irritant to induce cancer is suggested by the occasional development of cancer of the skin at the site of a chronically draining osteomyelitis.

It is generally believed that trauma alone does not induce cancer, certainly that a single or violent trauma does not initiate a malignant process, with the doubtful exception of certain sarcomas of the bone. That a single trauma alone is innocuous in cancer production has an important medico-legal bearing in compensation cases.

SUMMARY: The foregoing represents the impressions acquired from reading, by one who has no fa-

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miliarity gained by experience with much of the subject matter, yet who is vitally interested in the cancer problem as every physician should be who is called upon to treat this dread disease.

I was impressed by the great multiplicity of detail in the cancer research problems already undertaken and solved or partly solved; the impossibility for me, or perhaps anyone except a most wise and long experienced research worker, to digest and assimilate all that is being published, and to sift the wheat from the chaff; the evidently enormous cost in money and labor expended on this problem; the wasted energy through poor coordination of effort between the many research institutions; the conflicting results; the failure to develop any new knowledge for direct, practical application to the individual patient afflicted with cancer.

Yet, if there is to be any improvement beyond surgery, radiation and education of the public, in our effort to cope with cancer, it must certainly originate in the cumulative efforts of the research laboratories. The conviction is strong that any new attack will probably never result from an accidental discovery, or any small bit of uncritical research. That some new, more effective weapon will be forged to our hands, seems a hopeful prospect. When we shall be so armed is more than anyone can tell. Until we are, our effort should be to use our present weapons, surgery, radiation, education, with ever increasing diligence.

(To be continued)

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Maternal Mortality and Morbidity In One Hundred Consecutive Obstetrical Cases*

DR. LEON S. LIPPINCOTT
Vicksburg, Miss.

In selecting the subject of maternal mortality and morbidity is a series of one hundred consecutive deliveries in a general hospital, I am hoping to give you a fair index of the results obtained in this institution. In making this report, I want to first state that one must keep in mind the fact that we not only handled cases that were cared for before and after delivery by members of the staff, but also there were cases referred to us by doctors not connected with the hospital staff.

In reviewing some of the literature by various authors regarding what should constitute a febrile case, I am using a standard subject by Dr. H. J. Stander, of New York, such as is now used at the Woman's Clinic of the New York Hospital. Any puerpera is considered febrile if there is a rise of temperature 38 degrees C. (100.4 degrees F.) occurring once during each of two twenty-four periods following delivery, or remaining elevated longer than twenty-four hours after delivery, excluding the first twenty-four hours following delivery; temperature on all patients being recorded every four hours throughout the patient's stay in the hospital.

In this series of 100 consecutive deliveries, including cases from May, 1933, up to May, 1935, and including all types of delivery, there were sixteen cases which could be classed as febrile. Of these sixteen cases, three cases had infection following repair of the perineum at delivery; one case had a mastitis of the left breast, with redness and swelling, and also had an acute gastro-enteritis; two cases had a definite cystitis following repeated catheterizations; one case had an abscess in the abdominal wall following an elective caesarean section of the classical type; two cases had a definite post-partem pyelitis, and one case had an appendiceal abscess. Six cases were febrile with no definite explanation for the fever, but of the six, two of the cases had a definite excessive loss of blood following delivery, approximately 800 to 1000 cc., and one case had a definite postpartem hemorrhage of greater extent, estimated at 1400 to 1500 cc.

Regarding the types of delivery, eighty-three were spontaneous; four were mid-forceps; ten were low-forceps, and there were three caesarean sections, all of the classical type. Out of the eighty-three spontaneous deliveries, seventy-eight were cephalic; three were breech, and there were two sets of twins.

The indications for the caesarean sections were as follows: (1) a large breech presentation at term in a primigravida with a juxta-minor pelvis; (2) placenta-*praevia* centralis, in a multigravida, eight and one-half months gestation; (3) a generally contracted pelvis in a primigravida with a large baby at term. Of these three cases, only one was febrile, this being the case that developed an abscess in the abdominal

*Read before the Issaquena-Sharkey-Warren Counties Medical Society, Vicksburg, June 11, 1935.

wall.

Of the four cases of mid-forceps, two were febrile, or 50 per cent. One of the cases had a definite infection of the perineal wound, which had nothing to do with the forceps delivery. Fever in the other case may or may not have been caused by trauma that is almost certain to be associated with any mid-forceps delivery. Of the ten low-forceps deliveries three cases were febrile, or 33 per cent. Of the three, one case had an extensive third degree laceration with a subsequent infection of the perineal wound; one had a cystitis following repeated catheterization; there was only one case in which there was found no definite basis for the fever.

Fifty-seven cases had either a second degree laceration of the perineum or an episiotomy, and one case had an extensive third degree laceration. Only three cases developed any infection of consequence in this group after repair. There were two cases of placenta praevia, one being terminated spontaneously and the other by caesarean section. There was only one case with a definite abruptio placenta, this occurring at about six and one-half months, and not being severe enough to cause termination of pregnancy. The average stay in the hospital, including the day of delivery, was 12.2 days for primigravidas and 10.5 days for multigravidas.

As there were no maternal deaths in this series, I will give you the figures that were obtained from the last ten years' records, that is, from 1925 to 1935. In this series, there were three hundred and eighty-two deliveries, with a maternal mortality of two, or 0.52 per cent. One of these deaths was in a 22-year old primigravida who was brought to the hospital in a comatose condition at about eight and one-half months gestation with a history of a fulminating eclampsia which had begun two days before. She had been having convulsions every twenty or thirty minutes for six or eight hours. Examination on admission showed the patient having a convulsion, and she was comatose after convulsion. As there was no dilatation of the cervix, an immediate caesarean section was done under spinal anesthesia in hopes of possibly saving the life of the mother by emptying the uterus and stopping the convulsions. Although she only had two convulsions after the delivery, she never showed any signs of regaining consciousness, and died seventeen hours later. The baby was resuscitated, and, as far as is known, is living at present. The other case was that of a 25-year old primigravida who had a history of being in labor over twenty-fours without any progress. There had been numerous attempts to apply forceps to the head previous to admission, and there had also been an attempt to deliver by internal podalic version combined with manual dilatation of the cervix, but all of these attempts were unsuccessful in extracting the child. The patient was in poor condition on admission, and had lost considerable blood. No foetal heart tones could be heard on admission and no foetal movements observed. Immediate caesarean section was done, and a large dead hydrocephalic term foetus was delivered. Patient died seventeen days later from pulmonary embolism. She ran a very septic course following delivery.

In conclusion, there is very little to add concerning the febrile cases. Dr. Lee states in his book, that

any temperature above 99 degrees F. should be regarded with suspicion. He regards the initial rise in temperature which so often follows delivery as due to the inoculation of the puerperal wounds with the bacteria ever present in the parturient canals, and that it is not held to be "fibrin ferment fever." It is needless to add that strict asepsis, and careful handling of the parts, is an integral requisition to good obstetrics. One should be even more careful and gentle in the application and use of the forceps than in the normal spontaneous delivery. Excessive blood loss lowers the resistance of the patient, and every means available should be used to prevent excessive bleeding.

The first of the two cases that died would unquestionably have a grave prognosis regardless of any treatment received at the time of admission. Perhaps the outcome might have been different, had this patient consulted her local doctor when she first began to notice the headache and blurred vision two days before the convulsions started, instead of waiting until after she had already had one convulsion before calling him.

The second case is somewhat different. Manual dilatation of the cervix is a rather dangerous and difficult procedure, procedure, and I seriously doubt if it is ever advisable. High forceps are also very dangerous to both mother and baby, as well as being very difficult, even in a hospital with all its available help and asepsis, and in my opinion, should never be used; such cases should always have a caesarean section.

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Thirty-Five Years in the Delta*

DR. J. N. MECKLIN

Louise, Miss.

It was in the year 1900 that I left my native hills and equipped with a little sorrel horse, an old time medicine case, a small pocket case of instruments and a letter of credit from my preceptor to Van Fleet-Mansfield Drug Co., stating that I might be good for a small order of supplies, I made the journey to the edge of the Delta in one day—a distance of eighty-five miles. Resuming the trip the next day, I came to the banks of the turbulent Yazoo where an uncertain ferry, attached to a steel line, carried me safely across to the other shore. Like a young Joshua of old, I felt that I had crossed the River Jordan and was now in the Promised Land of Caanan.

The winter's rains had soaked the trails, called roads, and I labored on through the day in buckshot mud to the horses' knees until I reached my new location on Silver Creek. A single bayou led away from this creek, and from the high banks of these sluggish streams, stretched the fertile fields ending at the forest's edge.

In this location, there were a few scattered whites who had settled on the Sunflower River about ten miles from the plantations. The negroes were living on what was known as the "front" and in this new kingdom were ruled by the plantation owners who made the laws to suit the locality.

The county seat was a two days' journey and only reached by a slow moving steam boat that passed up and down the river on alternate days. The nearest railroad point was thirty miles.

My first surgical case was an amputation of an arm in a young, robust negro who had received a gun shot wound of the elbow. The dining table was brought from the cabin and placed under the shade of a pecan. The plantation manager kindly offered to give the anaesthetic and being too liberal with the amount, the patient had to be resuscitated before the operation could be completed. It was almost impossible to reach a surgeon or one who could do major surgery. In those days, appendectomies were rare and in the larger towns, the surgeon who dared and came through with a successful operation was thought of as a genius by the laity. There were a number of cases in my territory dying from peritonitis, intestinal obstruction and strangulated hernias and I decided that I would be a tyro-matters could not be worse—and many of the results proved afterwards that I was correct.

About fifty per cent of my cases recovered and as Dr. Hunter McGuire stated after tying the abdominal aorta, "the operation was a success but the patient died."

It was about the year 1901 that I was called to see a negro woman with intestinal obstruction. All measures for relief had failed and it was impossible to reach a surgeon. Calling in a young medical student who was "bushwhacking" for funds to complete his education, we made preparation for a laparotomy.

*Read before the Delta Medical Society, Greenwood, Miss., April 10, 1935.

It was in September, the room was warm and with the dining table in the middle of the cabin and the patient shrouded with sterile sheets, we cleansed the field and opened the abdomen. The intestines were rolled out of the abdomen and the search made for the cause. Somewhere along the tract, I do not remember now and probably did not know then, we found a band of adhesions binding the gut, and releasing this and completing the operation, the woman received immediate relief and recovered. Shortly after this, I was called to see a negro woman of about thirty years of age. It was an emergency call. She gave a history of sudden and severe pain in the lower abdomen and I found her in a state of collapse with symptoms of internal hemorrhage with abdominal distention. On opening the abdomen there were evidences of a profuse intra-peritoneal hemorrhage following the rupture of an extra-uterine pregnancy. This woman died a few hours afterwards.

Two successful appendectomies were done in that period of isolation and after a certain degree of success, I decided to enlarge my field of usefulness. I had read of Dr. Ephram McDowell, who in the pioneer days of Kentucky, had removed an ovarian cyst from one who recovered and I felt encouraged that I could do the same under better conditions.

On a certain day, I chanced to find my subject. It was a negro woman on a plantation who could not be relieved and had suffered for months with infected tubes and ovaries. An operation was advised and, calling in my friend, who always assisted and often did as much as I, we prepared the patient. The never failing dining table was brought out and arranged for a Trendelenburg position with blocks of wood at one end. Sheets and towels were baked in the stove, water that had been boiled was placed in all the available vessels and the field of operation rendered as sterile as possible with the methods used in those days. The preparation of the subject and the operation were carried out, as I remember, as follows: The abdomen was shaved. The skin was washed with soft or ether soap and this followed by a flushing of bichloride solution, 1-2000. Often this was followed by a sponging with grain alcohol. The hands were washed in ether soap and then dipped in a saturated solution of permanganate of potassium, the solution coming to the elbows. The potassium permang. solution was then neutralized by washing in oxalic acid solution and then when dipped in one of bichloride, the operator was ready. As I remember, this was the technique of sterilization practised by

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Dr. McGannon of Vanderbilt University who performed the first successful Caesarian section in Tennessee in the year 1899, and which it was my privilege to witness.

Returning to the woman, who was now on the table in the Trendelenberg position, the abdomen was opened and an exploration made. You notice we always explored, and many times in order to make a diagnosis. If there was ever a frozen pelvis, it was here. Multimillions of gonococci in the days passed had been busy at their appointed work and nature had thrown up a great barricade of adhesions. Through this net work of new tissue we struggled and finally removed the offending organs. The operation completed we removed our grips and the portable sterilizer to the buggy and with some misgivings drove slowly away to the office some ten miles up the bayou, leaving directions and the promise to return on the following day. The next morning, with some uncertainty, I drove down the plantation road and met the husband rounding the bend on a mule, and as he drew close by he informed me that "the old woman done ceased."

Thirty-three years have passed and today on a gravelled road which I travel daily there is the Sure Hope Cemetery, and close by in its most desirable location, a small marble slab arises out of neglected grass and woods and greets me with this inscription, "The Lord giveth and the Lord taketh away, blessed be the name of the Lord." As I pass hurriedly by, I thank the Lord that he is taking all of the credit for this departure.

As I remember, midwifery as practised in those days was little removed from the dark ages. On one occasion I was called on the plantation to deliver a delayed placenta. On opening the cabin door I was met by a stifling odor and when the atmosphere had cleared, a negro woman could be seen lying on a pallet with a quilt stretched over her bended knees while from its crevices clouds of smoke emitted. Lifting the tent, I found a pan of burning feathers and was informed by the midwife that "she got tired coolin' with that atterbirth and was going to smoke it out." This idea evidently originated from the custom of smoking rabbits from hollow logs. In all cases of fever, hog hoof tea could be found brewing in a tin can and the subject was drenched at various times with this mixture. The favorite remedy for spasms was the blood of chinchies and when nothing else was convenient, a tea was made from the excreta of goats or sheep. At that time, even as now, with the coming of the warm months of the summer and fall, malaria, like an ancient plague, spread over the land and rendered inefficient the inhabitants. The negro was rarely attacked with hematuria but among the few scattered whites, in their cabins along the bayous and lakes, the more malignant forms of this disease was dreaded. I remember in the fall of 1902, in a certain settlement of whites, there were six cases of hematuria, and one old man boasted "that he took it near 'bout ever fall and didn't pay no 'tention to it." However, I was called to see him the following year and the always fatal complication of suppression of urine carried him off.

There has been very little improvement in the treatment of this type of malaria since the other years. The greatest advancement which I have no-

ticed is the abandonment of the massive doses of mercury and ipecac, so widely used at that time, and more attention given to the physical condition of the patient. Medicines seem to aggravate rather than relieve, and quinine then as now, is not safe to administer, unless there is an unusual condition where it becomes necessary to destroy the parasite. Within late years, I have found where it is convenient, that blood transfusions offer remarkable results before the stage of suppression.

One thing that was noticeable in the early days of the Delta was the large number of cachectics among the poorer whites. Over a long period of infection the estivo-autumnal parasite had gained undisputed possession of the host and the defensive forces completely conquered, and when found in a household or community, it indicated a grave form of the infection. This condition presents a singular appearance. There is an aged expression, an enlarged abdomen, emaciated limbs and enlarged spleen. The red blood cells are greatly reduced in number and the parasite is rarely found in the peripheral blood. The spleen often extends to the umbilicus and the crest of the ileum. The temperature may be normal. There is indifference, intellectual torpor, somnolence, headache and vertigo.

In the year 1934, there were a number of such cases, especially in the late fall which is an indication of an unusual increase in malaria over the last twenty years. One fact was noticeable. The infection did not readily yield to the ordinary treatment, showing a wide spread of the estivo-autumnal parasite. In the year just passed, the quinine treatment was not successful in this type and there was failure where

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the usual ten grain doses were given for the purpose of sterilization. In selective cases I have found a prescription of quinine sulphate, tinct. of iron, sulphate of magnesia, citric acid and water sufficient quantity, to relieve these cases. In the estivo-autumnal type, the capillaries are congested and obstructed; the stomach will not absorb quinine alone and in the solution with sulphate of magnesia to deplete and relieve the congested area, there is more absorption and better results. I have also found this a successful preventive against recurrence but have used fifteen grains in the full weight adult rather than the ten grains per day as advised by the authorities. It is generally believed among the laity that quinine, like serum in typhoid fever, given in "shots," prevents malaria for an indefinite period and I have often been called on to give this form of treatment.

Dr. Bass states that fifty percent of all acute cases of malaria occurring in an infected community, consist of malarial relapses and not a new infection. Persons who have had malaria during a given year were likely in fifty per cent of the cases to have a recurrence. He also makes the statement that "Plasmochin is destined to take the place of quinine as a prophylactic." My experience with atabrine is limited. In the estivo-autumnal types it is not as successful as the use of quinine in solution. Plasmochin, not given in the maximum dose, has relieved the more obstinate forms. While the dose seems small, I would prefer to use 1/12th. of a grain 3 times daily and over a longer period. Plasmochin has one advantage over quinine. It has been shown that quinine has very little effect on the parasite during the incubation period while plasmochin has a decided effect.

In the old days, too often the mistake was made in the confidence in calomel which the physicians often and affectionately called the "Elixir of Life." Valuable time was lost awaiting the results from this bombardment with mercury. Pernicious malaria cannot wait and if there is the gastro-enteric form with severe vomiting, the best results are obtained by the intravenous use of ten to fifteen grains of dihydrochloride of quinine.

Returning to the recollections of my early days, one of my first calls led down a difficult trail through buck shot mud to the horses' knees while the dense overlapping cane would meet above my head and obscure the sunlight. Nearing the clearing, a cabin dotted the lone opening in the wilderness. A film of smoke wafted away from the chimney and was lost in the near forest. On the outside walls there was a decoration of bear skins—the result of the winter's hunt. A suspicious hound met me at the gate and after due consideration and a decision that I was one hundred per cent Anglo-Saxon, allowed me to enter. In the house, cachetic children stood around and gazed indifferently. A child of about eight years was lying on a pallet, with fever, glazed and jaundiced eyes, tossing from side to side. The mother was called and with all the dignity that youth could command, many unimportant questions were asked. Gravely I questioned as to the previous treatment and found that quinine had been administered in small doses. "Mrs. —, what kind of quinine have you been giving?" Looking up with an expression of pride, she replied, "I've been giving the reverent." And so it has been, through the many years of the past as the country doctor fighting against what he thought was

a deadly miasma, instructing his people how to combat this greatest of enemies of their progress, with air tight homes at night, windows and doors closed fast even in the torrid nights of summer, even to the present time with our knowledge of the parasite, quinine, empirical then, continues to this day to be called "the reverent."

I wish to close my story with another story that was written a number of years ago—a true story of a night spent on the Sunflower River when the estivo-autumnal form of malaria, like a plague, entered the homes of the poorer whites and carried away twenty-five per cent of their population. In this scene there is no blasphemy of truth. Some of you have stood many such vigils in the semi-pioneer days of the Delta.

THE UNSCREENED HOME

A brazen sun tumbled behind the hazy western rim and it was night. In the Sunflower River country September nights come early bringing with them a fog to cover the sluggish stream and a coolness to chill the poverty ridden blood of the poverty ridden people.

Out of their damp hiding places in the forest came the mosquitoes hungry from a day's fast. Through the half open door of Aaron Jones' cabin they swarmed. One or two lit on Aaron's face but Aaron did not care for he had taken a sleeping potion mixed by death, that apothecary whose vials carry an end to all pain. Around a meagre blaze in an open fire place, sallow, gaunt, and odorous of the day's toil, clustered Aaron's friends patiently awaiting the exit of his soul. All of Aaron's acquaintances were there except God. On a small, square-topped table that tottered threateningly to the touch stood an oil lamp with no chimney. From it streamed upward a smoky flame, setting in motion the festoons of cob-webs that swung from joist to joist. Plastered to the rafters were the hard baked, smoke stained cells of many generations of mud-daubers. On the mantel-board an inverted alarm clock, flanked by several half-empty bottles, ticked hesitatingly.

In the kitchen a woman stood over a stove that smoked at every crevice and fried leanless pork-slabs. Her face framed in straggling wisps of hair, grey too soon, bore the fixed mask of hopelessness that is the brand of poverty. Her single garment flared widely at the bosom showing a flat chest and breasts pendulous from the tuggings of too many babies. Listlessly she fared to and fro between kitchen and sick room,

J. M. DORRIS, M.D., F.A.C.S.
General Surgery

Traumatic Neurosurgery
402 Physicians and Surgeons Bldg.
Telephone 6-3288

89S Madison Ave.

Memphis, Tenn.

MRS. S. A. CARNES
Rt. 1 Biloxi

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HAND WEAVING

On the beach between Gulfport and Biloxi

a galley-slave scourged to apathy by the thong of Fate. Men called her Aaron's wife.

In the corner Aaron's coon dog, Loud, whined querulously and thumped the floor with the knuckle of his leg as he scratched at fleas.

As the night drew on all slept except Uncle Bill. He sat chewing silently, spitting great mouthfuls that fell hissing on the dying fire. Presently he too lay down on the spare bed beside one who had not "missed his chill" and was sleeping heavily in overalls soaked with sour sweat. Even the woman sitting on the edge of the sick man's bed, head buried in cupped hands, dozed fitfully. Out of the darkness came a great black cat and paused a moment in the door, whipping his tail from side to side, then stole softly across the floor and squatted down beside the warm ashes.

The sunken cheeks of the dying man vibrated to each breath. The battered clock on the mantel, ticking more and more faintly, measured the night away.

Suddenly there was the tearless sob of a woman and the rasp of a chair pushed along the floor. Someone, tipping softly across the room, pulled a sheet over the haggard, yellow face and the soul of Aaron, born of passion's whim to be lashed hither and thither, like a blade of corn, by the passing winds of chance, went winging away to seek an ultimate shore of Space where Fate is not master and there are no years.

* * *

Outside a sex-confident rooster chuckled wheedlingly as he spun around his mistress. At the lot gate a one horned brindled cow with swollen udder stood and lowed continuously for her calf.

Layer by layer the fog floated up from the silent river. The sun creeping segment at a time over the edge of the East set agleam the dew-drenched forest and it was morning.

The Acute Abdomen*

DR. H. M. WILLIAMS
Columbus, Miss.

There are certain principles of diagnosis in acute abdominal disease which I want to stress in the beginning.

1. The necessity of making a serious and thorough attempt at diagnosis. Abdominal pain is one of the most common conditions which call for speedy diagnosis and treatment. Usually, though by no means always, there are other symptoms which accompany the pain, but in the majority of cases of acute abdominal disease pain is the main symptom and complaint. The very terms "acute abdomen" and "abdominal emergency," which are constantly applied to such cases, signify the urgent need for prompt diagnosis and active treatment. It is common knowledge, however, that when confronted by a patient suffering great abdominal pain it is often very difficult to be certain as to the exact intra-abdominal lesion which has given rise to the symptoms. In most instances the urgent need for surgical assistance may be so obvious that the need of transference of the pa-

tient to a surgical centre is clear. There are, however, occasions when, with somewhat indefinite symptoms, there may be a tendency to wait for the development of clearer indications, to see if the condition will not improve spontaneously, and generally to temporize. This course of conduct is not justifiable, for it is a wise plan always to make a very thorough attempt to elucidate the problem when the patient is seen for the first time, though it is impossible to be sure of the diagnosis in quite a number of cases. No man, however good he may be, can stand on the outside of the abdomen and tell exactly what is happening on the inside. Quite often the surgeon has to resort to an exploratory operation to find the exact cause.

The general practitioners have better opportunities than any other section of the medical community for observing these early symptoms, and by patient and painstaking observation it is possible for them greatly to add to the stock of common knowledge.

2. It is of the utmost importance to diagnose early.

Do not administer an opiate until you are certain that surgical interference is necessary or until a diagnosis has been reached. Morphine does little or nothing to stop serious intra-abdominal disease, but it puts an efficient screen in front of the symptoms. The fire burns, but it is not visible, and sometimes only when vitality is burnt out is the mistake realized. If morphine be administered, it is possible for a patient to die happy in the belief that he is on the road to recovery, and in some cases the medical attendant may for a time be induced to share the delusive hope.

It is a curious but well-known fact that many who are taken with abdominal pain in the daytime endure till evening before they feel compelled to send for the doctor. It follows that important decisions often have to be made at night when the physician, weary with the day's work, and with perceptions and reasoning faculties somewhat jaded, is at his best neither physically nor mentally. The temptation is often very strong to temporize and "see how things are in the morning." There can be few practitioners of experience who cannot look back with regret to one or more occasions when delay has been fraught with disaster. The waiting attitude is understandable, but only occasionally excusable. To suspect an intussusception, to think that possibly there may be a perforation of a gastric ulcer, and yet to leave the question undecided for eight or ten hours, is to gamble with a life. A delay of two hours in diagnosis may

W. LIKELY SIMPSON, M.D.

Eye, Ear, Nose, Throat and Bronchoscopy
512 Physicians and Surgeons Building
(Baptist Hospital Annex)
Memphis, Tenn.

DR. Wm. F. HAND

Gynecology and General Surgery
519-21 Standard Life Bldg.
Jackson, Miss.

*Read before the Northeast Mississippi Thirteen County Medical Society, Sept. 17, 1935.

make the difference between two weeks and two months illness of the patient. The fact that the patient comes late to the doctor is all the greater reason why he should diagnose as soon as possible. The general rule can be laid down that the majority of severe abdominal pains which ensue in patients who have been previously fairly well, and which last as long as six hours, are caused by conditions needing surgical intervention. There are exceptions, but the generalization is useful if it serves to call attention to the need for early diagnosis. It is now acknowledged by those who are acquainted with modern surgical results that the best and only justifiable treatment for perforated ulcers, appendicitis, cholecystitis, ectopic gestation, and intestinal obstruction is by surgical intervention. It is also well recognized that the earlier such cases come to the surgeon the better are the results. When it is remembered, however, that the first successful suture of a perforated gastric ulcer was performed only thirty-seven years ago, that the removal of a diseased appendix has only been a practical surgical question for about the same time, that opening the abdomen for intestinal obstruction was regarded until comparatively recently as the last instead of the first resort, it will be recognized that the modern mental attitude toward abdominal emergencies has only been adopted within the life time of this generation. But the old view that delay is permissible still lingers in some quarters, for custom changes slowly. There are still some who justify waiting until a local abscess has formed in a case of appendicitis, some who advocate the trial of such uncertain methods for reducing an intussusception as injection of fluid or air per anum, and there are certainly many who treat cases of intestinal obstruction by medical measures for several days before sending them to the surgeon. Public opinion on the subject needs education, and such education must come from the practitioner. The attitude of some patients who assert—and act up to their assertion—that they would rather die without operation than obtain a good chance of cure by undergoing some surgical procedure, is surely the result of an imperfect diffusion of the knowledge that surgery offers the best chance of life in such emergencies.

The recovery-rate from the acute abdomen increases in proportion to the earliness of diagnosis and treatment.

3. Thorough routine examination of every acute abdominal case should be made.

4. It is necessary to have a good knowledge of the anatomy and physiology of the abdomen.

5. It is necessary to differentiate medical diseases from surgical ones. Such medical diseases which cause confusion are typhoid fever, nephritis, tuberculous peritonitis, heart disease, cirrhosis of the liver, etc.

What I have said has been a general consideration of all acute abdominal diseases. Due to the gradual rise in mortality rate of cases operated for appendicitis during the past decade I want to talk about acute appendicitis in particular and other acute abdominal diseases in general, stressing the points necessary to reduce this un-necessary mortality rate.

1. Diagnose early: The order of symptoms of acute appendicitis given by Murphy years ago is for a typical case.

1. Pain usually in epigastrium or around umbilicus or over whole abdomen.
2. Nausea or vomiting may or may not be present.
3. Local tenderness in right lower quadrant. This is treacherous for many times pain does not localize for a number of hours. Pain very often is in the epigastrium and may stay there for a number of hours.
4. Fever: One of the most treacherous symptoms, because for several hours the temperature is most often normal to 99 or 99½.
5. Leukocytosis: Also very misleading for many early and late cases have a normal blood count or nearly so.

2. Do not treat but have patient operated immediately. Every case of appendicitis should be operated as soon as possible unless he is moribund. If moribund or greatly shocked give a blood transfusion every third day until can operate. Under treatment let me condemn especially purgatives, opiates and the ice bag. If something has to be used, then use a hot water bottle. Absolutely nothing by mouth.

3. Operation: Should be done under spinal or general with least bit of trauma and ordinarily requiring from five to fifteen minutes. Many cases are killed or maimed by the inexperienced surgeon prowling around in the abdomen for an hour or two. For ruptured appendix with localized abscess simple drainage to prevent further peritonitis simply pack a gauze strip against abscess wall and come out. If abscess is retrocecal do not go through peritoneal cavity, but burrow lateralward with finger into abscess cavity. For generalized peritonitis, suction all free pus out of abdominal cavity and, if desired, place in two or three stab wounds, a fine texture soft flat rubber drain. This type drain does not get caught in the omentum or coils of intestine as it is light and freely movable with peristalsis.

Hypertonic saline and glucose intravenously. This two and three percent hypertonic saline in 10% glucose has saved more lives in generalized peritonitis than any other procedure in post-operative care, but strange to say has not until very recently been widely employed. An ordinary sized man or woman will require 4,000 cc. glucose daily including 1,000 cc. hypertonic salt solution. Blood chlorides may be checked daily if possible but where a patient is constantly losing fluids from the gastro-intestinal tract by the decompression method (instead of vomiting which used to be the case,) we have found the 1,000 cc. three percent salt solution daily to keep the chlorides with-

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in normal limits.

Let me say here we give hypertonic for a day or two to cases with only localized peritonitis as we feel this prevents nausea and vomiting and enhances earlier recovery.

Upper abdomen decompression: All cases showing any distension are immediately put on constant stomach and duodenal suction drainage to prevent absorption of toxic fluids and prevent vomiting. The patient is encouraged to drink lots of water, coca-cola and all kinds of fluids which of course immediately run right out through the Levine tube, but help to satisfy the patient.

Opiates: Keep patient absolutely quiet with morphine or pantopon. Opiates increase peristalsis notwithstanding the general opinion to the contrary.

SUMMARY

Pain in the abdomen lasting six hours, after the stomach has been emptied by vomiting, is an acute surgical condition and calls for surgical intervention.

Do not give morphine until you are sure of your diagnosis, and patient agrees to operation. An ice bag should not be used as it acts as an opiate, devitalizes the tissues of the abdominal wall, promotes gangrene or thrombosis of the appendix.

The post-operative treatment of all acute surgical conditions with peritonitis whether it be appendicitis, obstruction, ruptured tube, ruptured ulcer, cholecystitis or other conditions is essentially the same as outlined in the post-operative treatment.

618 Main St.

Tippah's Oldest Physician Dies

One of the oldest and most highly respected citizens of Tippah county, and one of the oldest, physicians in Mississippi from the standpoint of length of time since he began the practice of medicine, passed away on last Wednesday night about eleven o'clock when Dr. Lawrence Sims Pearce, age 88, died at his home west of Falkner.

Born in Ripley on April 1, 1847, Dr. Pearce was the son of Dr. William Henry Patrick Pearce, one of the early doctors of Tippah county, who was a native of England and who graduated from the medical school of the University in 1845.

Dr. Pearce began the practice of medicine in 1871 at Brinkley, Ark., where he resided for about three years. He moved from there to Falkner in 1874, and after living at Falkner for several years he moved to the community west of Falkner where he resided until his death. He ceased to practice about four years ago, after working almost constantly as a physician for about 60 years. He attended Medical school at Louisville, Kentucky.

He was married in early life to Miss Lou Derrick, who died many years ago. To this union was born one son, Dr. J. H. Pearce, of Falkner. His second wife, who survives, was before her marriage Miss Sarah E. McCaskill.

The funeral and burial was at Little Hope on Friday morning, where a large number gathered to pay their last respect to this beloved Tippah county citizen. The service was conducted by Elder J. T. Hallmark, of Falkner. Brief talks were made by Captain O. A. Porter of Walnut, who is himself over 90 years of age, and by Mr. S. S. Finger, of Ripley,

who for many years resided in the same community with Dr. Pearce. They all spoke highly of Dr. Pearce as a citizen, a physician and as a Christian gentleman. He had for many years been a member of the Primitive Baptist church.

The family of Dr. Pearce is truly a family of physicians. He like his father was engaged in the practice of medicine. Two sons, Dr. J. H. Pearce, of Falkner, and Dr. L. P. Pearce, of Collierville, Tenn., are engaged in the same profession. Two grand-sons, Dr. Robert S. Pearce, of Memphis, and Dr. John C. Pearce, of Mercer, Tenn., are practicing medicine, and two grandsons, Dr. B. M. Pearce, of New Albany and Dr. James F. Pearce, of Waurika, Okla., are dentists. The only sister of Dr. Pearce, Miss Virginia Pearce, long since deceased, was the wife of the late Dr. J. Polk Rucker, for many years a prominent Tippah county physician.

During his years of active practice Dr. Pearce served the people of a large territory as their family physician, and those who knew him well say that he would often go for two or three days and nights without sleep doing his best to visit his clients who were in need of his services, and that it was sometimes necessary for him to stop while riding through the country at the home of some friend and sleep a while where he couldn't be found, in order to be able to keep going. He gladly went to see all those in need of his services, regardless of their financial condition or ability to pay him at the time of his visit. The length of his life was remarkable in view of the amount of work that he did, the exposure that it was necessary for him to endure, and the tremendous amount of riding that he had to do. His life was truly one of service to humanity.

Dr. Pearce is survived by his wife and the following sons and daughters: Dr. J. H. Pearce, of Falkner; William Martin Pearce, Bowling Green, Ky.; Mrs. Erin Wright, of Falkner; John E. Pearce, of Sardis; Dr. L. P. Pearce, of Collierville, Tenn.; Lawrence Sims Pearce Jr., of Falkner; Mrs. Sarah E. Durbin, of Falkner.

The following, all grand-sons, served as pallbearers: Dr. M. B. Pearce, J. C. Pearce, Leroy Pearce, Lee Pearce Jr., Frank Hill Pearce, Lawrence Wright, Dr. Robert S. Pearce.

The following, some of who were unable to attend the funeral, were named as honorary pallbearers: O. A. Porter, S. S. Finger, Smith Butler, A. L. Conner, Dr. John Tate, Dr. E. J. Green, Dr. R. M. Adams, Dr. C. M. Murry, Dr. Vance Murry, George Burton, P. A. McBride, and Sam Merritt.

His large number of friends and acquaintances deeply mourn the passing of Dr. Pearce and their many friends sympathize with his family in the loss of their loved one.

The Ripley Funeral Home had charge of funeral arrangements.—Southern Sentinel.

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Diagnosis, Bad and Different

JOHN W. BOGGESE, JR., M.D.
Guntersville, Ala.

We often see the word "diagnosis" in print, hear it, and speak it. However, very few of us, it seems, have given it enough thought to fully understand its meaning. It has a **specific** meaning: "The determination of the nature of a disease." Its use, therefore, should be restricted. In fact, it should be seldom used. The physician using it should be certain, beyond all reasonable doubt, that the **actual** nature of the disease in question has been determined. "Impression" would seem to be the logical word to be used in doubtful cases. However, one seldom hears of a physician's impression of a case. The reason for this may be because the average patient would understand that no actual diagnosis has been made in his case and that it would have a tendency to have him "ad-journ sine die," leaving the physician without benefit of trying certain preparations that have been recommended by detail men for cases with similar symptoms. Then, assuming that this reasoning is correct, there had to be a word coined to be used for diagnosis in cases where the cause of the trouble was not, or could not be determined, one that would cover every symptom possible for an individual to have. Some one came forward nobly with exactly the right word, "neurosis." This word includes all for which it was intended and has been made to cover any baffling symptom or group of symptoms encountered by the physician. It can be correctly used in any case as a diagnosis, with or without examination of the patient. Naturally, a word of this magnitude is bound to be abused by those who will not take the time to properly examine their patients. The physician is not lying to his patient when a diagnosis of neurosis is made if he has not determined the actual cause of the trouble and at the same time it is food for conversation and, in all probabilities, will keep the patient coming back for as long as the physician desires. I am not contending that there is no such condition as neurosis, but I am merely calling attention to its abuse. When it is used, the patient should be made understand just what it means. It is seldom that a patient will change physicians as long as some effort is being made to locate his trouble.

In making a correct diagnosis there are many factors to be considered and in my opinion, the principal one is not to form an opinion before the examination has been made. It is too easy to lead a patient into making false statements regarding his symptoms when the physician has a fixed opinion as to the nature of the disease, "text-book" symptoms will be noted and atypical symptoms ignored. There is also a tendency to make laboratory tests conform with fixed opinions. I know an outstanding clinician who never takes a history of a case until after complete physical and laboratory examinations have been made; this is also my practice. It is done to keep from beginning with a fixed opinion and to keep from overlooking physical defects that may not be far enough advanced at the time of examination to produce symptoms and findings fail to coincide. Also, if sufficient evidence is not found at the time of the original examination to account for

symptoms complained of, the patient should be re-examined when symptoms are present. It is unlikely, for instance, if the symptoms complained of were due to hypoglycemia or calcium deficiency that these conditions would be found at a time when the patient was free from symptoms. Were this true, this fact alone would rule out the deficiency as the cause of the symptoms. The failure of clinicians to keep this one thought in mind is often the cause of a mistaken diagnosis of neurosis. Once this mistake is made by an outstanding clinician the patient is usually doomed to untold discomfort for probably the balance of his life, as both the patient and other physicians usually know the type of work done by the original examiner and think that it was as thorough as could be done. In cases previously examined by a good clinician the most important question to ask the patient is probably, "Were symptoms present at the time you were previously examined?" If the answer is "no," then it is probably better, for the physician and patient, for the patient to be instructed to return when symptoms are present to begin the examination, or at least to withhold the diagnosis until additional tests have been made with symptoms present in cases where the examination has been completed and symptoms unaccounted for.

Mistaken diagnoses will probably be with us always, and unfortunately, this often causes the development of a true neurosis. A mistaken diagnosis, after careful examination of the patient, is always excusable, but a mistaken diagnosis or a diagnosis of neurosis, without careful examination, is never excusable. Such indefinite terms as "female trouble," "stomach trouble," "weak lungs," "heart trouble," "kidney trouble," etc. should always be avoided as they often lead to the development of a definite neurosis. The so called "snap-diagnoses" are extremely dangerous. This practice results in the physician often having to change his diagnosis frequently and as a consequence results in the loss of the patient's confidence. There is nothing as unsatisfactory as to try to treat a patient after his confidence has been lost. I once saw a negress who had a syphilitic rash and made a diagnosis of measles, chicken-pox, and small-pox at intervals of a few days before a Wassermann test finally made the diagnosis certain. It took quite a bit of explaining on my part to make her believe she actually had syphilis. A few recent cases to show some of the commoner mistakes in diagnoses, which are encountered almost daily, may partially

WM. MILTON ADAMS, M.D.
Practice Limited to Plastic and Reporative Surgery
Suite 410-414
Physicians and Surgeons Building
899 Madison Avenue
Memphis, Tenn.

D. H. ANTHONY, M.D., F.A.C.S.
Eye, Ear, Nose & Throat
1720 Exchange Bldg.
Memphis, Tenn.

excuse my effort in attempting this paper.

Case 1.

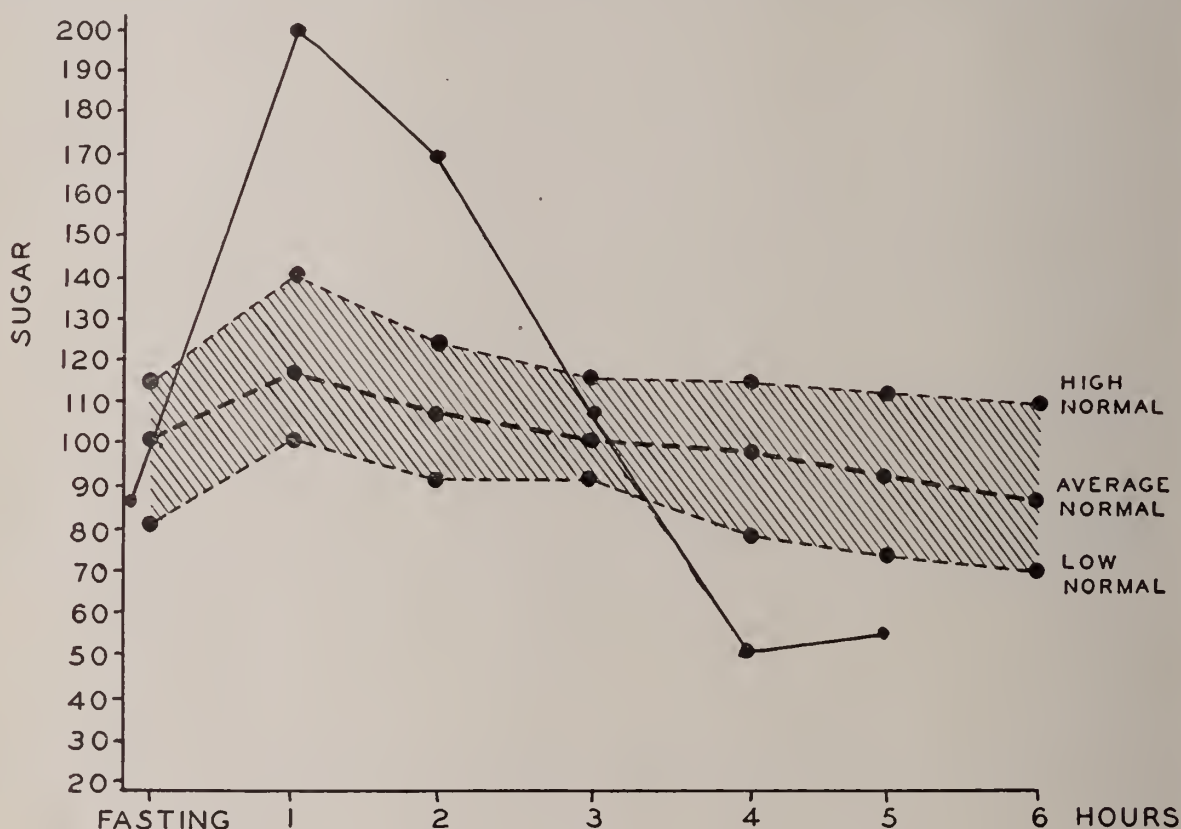
Mr. W. Age 45. **Complaint:** "Shortness of breath." (In reality, air-hunger of Kussmaul). Had consulted a physician several weeks previously who told him he

had "heart trouble" and put him to bed and administered digitalis. No improvement. **Findings:** Physical and laboratory examinations negative, including exercise tolerance and fasting blood sugar. Glucose tolerance test showed the following:

GLUCOSE TOLERANCE TEST

Chart No. 1. Case One.

Note the sharp rise during the first hour, the slow drop from the 1st to 2nd hours, and the rapid drop from the 2nd to 4th hours, and slow rise from 4th to 5th hours. Glucose stimulates the islets of Langerhan. The sharp rise is accounted for by slow stimulation and the sudden drop by over production after stimulation. Dyspnea and nervousness marked after 3rd hour, this muscular activity accounts for rise from 4th to 5th hours (liberation of glycogen from muscles), and this probably would have continued until the fasting level was reached or glucose ingestion. This also shows the importance of carrying the test beyond the 3rd hour. (Test usually stopped after 3rd hour).



Diagnosis: Dysinsulinism (A potential diabetic). This patient made a rapid recovery with complete relief of symptoms on diet only. **Moral:** All dyspnea is not due to heart failure.

Case 2.

Mrs. M. Age 40. **Complaint:** Low grade fever of several months duration. Weakness. Nervousness. All sorts of indefinite abdominal and pelvic pains. Had consulted several outstanding clinicians during past several years. Exploratory laparotomy 2 years ago, appendix removed. No improvement following operation or treatment. **Findings:** Physical and laboratory examinations essentially negative except for Wassermann, which was returned 4 plus. **Diagnosis:** Syphilis. This patient was free of fever shortly after treatment was started, has gained weight and is entirely symptomless. The lady came from one of the oldest and most prominent families in the county in which she lives and I am sure that for this reason only a Wass-

ermann test was previously omitted. **Moral:** Every patient has syphilis until proven otherwise.

DR. E. C. ELLETT
DR. R. O. RYCHENER

Ophthalmology
1720 Exchange Building
Memphis, Tenn.

PERCY B. RUSSELL, JR., M.D.

Practice limited to
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Memphis, Tennessee

Case 3.

Mrs. N. Age 27. **Complaint:** "Weakness. Nervousness. Irritability. Loss of appetite and general run-down condition." **Findings:** A thin, underweight, neurotic type woman, poor cooperation. Laboratory findings essentially negative except basal metabolic rate, minus 20. **Diagnosis:** Hypothyroidism. This patient has gained considerable weight on thyroid medication, has a good appetite, and states that she never tires. **Moral:** Nervous, underweight individuals are sometimes hypothyrotics.

Case 4.

Mr. G. Age 40. **Complaint:** Frequent and painful urination, blood in urine on several occasions recently. Headache. Insomnia. **Findings:** B.P. 190/120. Cardiac hypertrophy, hardened arteries. Urine showed 4 plus sugar and numerous epithelial cells. Normal glucose tolerance. **Diagnosis:** Hypertension (arteriosclerosis). Renal glycosuria. This patient had been told that he had diabetes mellitus. No improvement on treatment. **Moral:** All glycosurias are not of diabetic origin.

Case 5.

Mrs. C. Age 29. **Complaint:** Frequent and painful urination. Indefinite abdominal pain, frequently localizing in rt. iliac region. Extreme nervousness during an attack. Bladder and abdominal symptoms usually coexistent. All of several years duration. Had been diagnosed several times as chr. appendicitis and chr. cystitis. **Findings:** Physical and laboratory examinations all essentially negative except blood calcium, 7 mgms. per 100 cc. Pt. has been entirely free of all symptoms several months on calcium therapy. **Diagnosis:** Calcium deficiency (atypical tetany). **Moral:** Do not expect results when functional disorders are treated as organic diseases.

Case 6.

Mr. N. Age 40. **Complaint:** Non-irritating rash on both ankles and legs for several months duration. Had been treated for several varieties of skin disease without results. **Findings:** Pt. never ate breakfast, very light lunch, very light supper. Drank 8-10 Coca-colas daily and from ½ to 1 Pt. whiskey. Achlorhydria gastrica, slight anemia. **Diagnosis:** Pellagra. Rash disappeared promptly under systemic treatment and correction of habits. **Moral:** The dermatitis of pellagra is not necessarily always on exposed surfaces.

Case 7.

T. (Female child) age 10. **Complaint:** "Epilepsy." Has had frequent convulsions since age 6. Nervous, irritable, does not play normally, has not been to school for 2 years and did not learn while attending. Was diagnosed as epilepsy following first convulsion and has been constantly on treatment since without improvement. **Findings:** Underweight, poor mentality. Hypoglycemia and low blood calcium, 7 Mgms. per 100 cc. **Diagnosis:** Tetany (hypoglycemia due to tetany). This patient has made a complete recovery under calcium therapy and is now perfectly normal, mentally and physically. **Moral:** Epilepsy explains convulsions as neurosis explains nervousness.

Case 8.

Female child. Age 8. **Complaint:** Convulsions, especially during night and just before meals. First convulsion at age 3. Often just before an attack the child would start running and would have to be chased, usually fell in convulsive seizure after running

short distance. Had been diagnosed as epilepsy and treated without improvement. **Findings:** Hypoglycemia, otherwise negative. **Diagnosis:** Hyperinsulinism. This patient has not had a convulsion for more than a year with frequent feedings of low carbohydrate diet. **Moral:** Sedatives will not raise blood sugar.

Case 9.

Mr. R. Age 38. **Complaint:** "Heart trouble." Shortness of breath, palpitation, edema of feet and ankles, weak knees with inability to stand for any length of time, "kidney trouble." Had been diagnosed as "heart trouble" on several different occasions and put to bed as many times and treated without improvement. **Findings:** Heart examination revealed all types of murmurs, no exercise tolerance, edema of feet and ankles, extreme pallor. Hb. 45%. Achlorhydria gastrica. Occult blood and hook-worm ova in stool. 3 plus albumen in urine. **Diagnosis:** Hook-worm disease. Pt. perfectly well and working every day shortly after treatment. **Moral:** We still have hook-worms with us, sometimes in us.

Case 10.

Male (W). Age 18. **Complaint:** "Kidney trouble." Generalized anasarca of several weeks duration. No discomfort except respiratory embarrassment. Had been treated several weeks by several physicians for acute nephritis, urinary antiseptics and Karrell diet. **Findings:** 4 plus albumen in urine, no casts or pus. B.P. 110/90. Otherwise negative. **Diagnosis:** Nephrosis. Cured in reasonable length of time on high protein diet and diuretics. **Moral:** Low B.P. and absence of casts in urine speaks against nephritis. Differential diagnosis important in this case due to difference in treatment of the two conditions.

Case 11.

Mr. N. Age 35. **Complaint:** Excruciating pain in upper mediastinal region, referred to left shoulder and arm. Had been drinking considerably the night before and awakened with pain described. Indefinite joint and muscles pains for several weeks past, not severe enough to require medical attention. **Findings:** Nothing definite by auscultation and percussion of chest. Fluoroscopy revealed tremendously dilated aorta. Wassermann negative. **Diagnosis:** Rheumatic aortitis. Pt. relieved of symptoms and now is apparently well after treatment with mercury cyanide and salicylates. **Moral:** Symptoms from diseases of long standing may develop under the most peculiar circumstances. Neuritis would seem to be the most logical diagnosis in this case.

WADE CLINIC

Wade Building

Hot Springs National Park, Arkansas

DR. H. KING WADE, Urologist

DR. CHARLES S. MOSS, Surgeon

DR. J. O. BOYDSTONE, Internal Medicine

DR. JACK ELLIS, Internal Medicine

DR. N. B. BURCH, Eye, Ear, Nose and Throat

DR. RAYMOND C. TURK, Dentist

A. W. SCHEER, X-ray Technician

MISS ETTA WADE, Clinical Pathologist

Case 12.

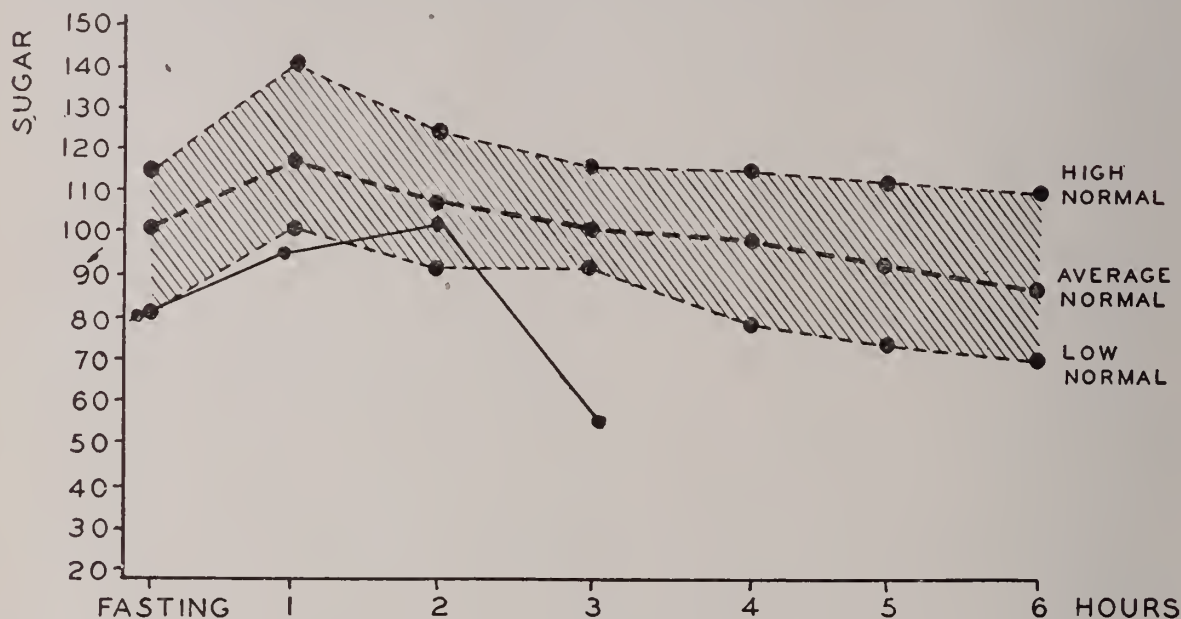
Mr. H. Age 25. **Complaint:** Severe pain in epigastric region for past several months, worse 2-3 hours after meals. Excessive gas, nervousness, insomnia, loss of weight. Had been treated since beginning of

present illness for duodenal ulcer without improvement. **Findings:** Stomach and stool analysis normal. G. I. X-ray series and G. B. shadow normal. Glucose tolerance test shows the following:

GLUCOSE TOLERANCE TEST

Chart 2. Case 12.

The patient was so nervous at the end of the 3rd hour that glucose had to be given. Symptoms were promptly relieved after 6 ounces of orange juice was given.



Diagnosis: Hyperinsulinism. Complete relief within a few days on low carbohydrate diet with frequent feedings. Gained 8 lbs. in first ten days. **Moral:** All pain occurring in epigastric region 2-3 hours after meals is not due to duodenal ulcer.

Case 13.

Mr. M. Age 29. **Complaint:** "Feel out of place around people." Headache, nervousness, loss of appetite. Has had intermittent attacks of headache for past ten years. Has lost confidence in his ability to do things for himself. Stays locked in his room for weeks at a time without seeing even members of the family. Was under treatment by a psychiatrist for several weeks without improvement. **Findings:** Small hands and feet compared to size of body. Broad pelvis (feminine type). High sugar tolerance. Normal B.M.R. **Diagnosis:** Hypopituitarism. Greatly improved under treatment. **Moral:** The power of suggestion is of no benefit in functional disorders.

Case 14.

Miss H. Age 27. (Virgin). **Complaint:** Profuse, irritating vaginal discharge for past 18 months. Was diagnosed as gonorrhea shortly after beginning and she was treated twice weekly until present without improvement. Has not visited friends or attended social functions since diagnosis. Vaginal smear showed trichomonas vaginalis. **Diagnosis:** Trichomonas vaginalis vaginitis. Cured after short treatment. **Moral:** All vaginal discharges are not due to gonorrheal infection. Smears should be carefully examined in all cases before a diagnosis of gonorrhea is made. This diagnosis is inexcusable, it will never be known what

mental agony this innocent girl suffered.

I see no reason for mentioning other cases to show what little effort is sometimes made to properly diagnose a case. In the vast majority of instances I feel that so little effort is made because of a lack of interest and not because of lack of knowledge. For treatment to be successful the diagnosis must be correct. There is too much disagreement in the profession on diagnosis. A diagnosis made by Dr. Smith should be the same as that made by Dr. Jones, everything being equal. It is no wonder that the laity is rapidly losing respect for our opinions, it is seldom that any two physicians agree on a diagnosis. When a patient consults a physician he is usually sick and expected to be cured or relieved and after spending much time and money he has not attained either,

Offices of
WILLIAM CALVERT CHANEY, M.D.
20 S. Dunlap Street
Memphis, Tennessee
Internal Medicine and Allergic Diseases

THE THREE MUSKETEERS BOOK SHOP
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it is natural that he should lose confidence in the profession as a whole. Something is in order to stimulate our diagnostic abilities. The journals are usually full of highly technical articles on experimental medicine that will never be of benefit to the older practitioners and they know it. It does not matter to them so much about the future, they want to read something that will be of benefit now, something they can put into immediate use. The old saying, "You can't teach an old dog new tricks" might well be considered by the journals and some effort made to rehearse "the old dog" in the tricks he already knows. It would not hurt many specialists to "rub up a little" on diagnosis, regardless of how efficient they are in their own branch of medicine. A few years ago I saw an exophthalmic goitre case that had been to several physicians for treatment and to two eye specialists without a diagnosis being made. His disability was of several months duration and he was almost past the operable stage when a diagnosis was made. He now has a permanent heart and eye damage and had been taking iron-quinine & strychnine for several weeks, "to build him up," prior to the time the diagnosis was made.

In conclusion I wish to say that I hope there is some stimulus here for more thorough examinations of patients, if so, fewer diagnoses of neurosis will inevitably be made. The fewer diagnoses of neurosis made means more patients will be cured of their disorders, and the more patients cured means more respect the laity will have for the medical profession.

"Folks who never do any more than they are paid for, never get paid for any more than they do!"—Elbert Huggard.

Dr. W. F. Rhodes Dies

Dr. W. F. Rhodes, 62, a practicing physician at Capleville, near Memphis, died at his home there recently after an illness of two months.

A native of Guntown, Miss., and later of Savage, Miss. His wife died several years ago. Survivors include three brothers and three sisters, among them Mrs. L. K. Gambrell, of Tupelo, Miss.

Dr. Hand Is Victim of Stroke

WAYNESBORO, Miss., Sept. 26.—Dr. B. F. Hand, 53, prominent physician and citizen of Waynesboro, was found dead shortly after six o'clock this evening at the Waynesboro Clinic by Miss Theresa Wilson, nurse, who entered the room to awaken him. Death apparently was due to heart failure.

Dr. Hand had been at the clinic most of the afternoon and had gone to the room to lie down for a short rest.

Dr. Hand came to Waynesboro in 1931, and was associated at the Waynesboro Clinic with Dr. W. H. Gray, where they had a wide practice. Prior to his coming to Waynesboro, he was located at Quitman for a number of years.

Besides his wife, he leaves three sons, James Robert, Benjamin and Albert, all of Waynesboro; his father of Collins, Miss.; four brothers, Dr. Robert Hand, Philadelphia, Miss.; Austin and Loftin, Collins, Miss.; Preston, Hattiesburg, and one sister, Mrs. Emmett Walker, Collins, Miss.

The Diagnosis and Treatment of Ectopic Pregnancy

DR. R. H. CHRISTIAN

Baldwyn, Miss.

INTRODUCTION

Ectopic pregnancy occurs when the fertilized ovum is arrested between the Graafian follicle and the uterine cavity and undergoes further development.

The question of the diagnosis and treatment of this condition has been under discussion for many years. The general practitioner is not so much interested in theories of etiology as he is in the methods of recognition and relief. The question of diagnosis is not an easy one and yet it is very important that the condition be recognized and treated early since it greatly endangers the life of the mother and yet holds practically no hope for the life of the child. While the treatment lies largely in the field of the specialist, it is necessary for every successful practitioner to remember a few important criteria of diagnosis in order to prevent embarrassing and fatal mistakes. The keynote to diagnosis is to suspect its presence. It is the purpose of this paper to attempt to bring out the consensus of opinion in a more or less general way without going into detailed laboratory procedures since most of these measures are beyond the time and technique of the average surgeon. The diagnostic signs and symptoms as well as treatment vary greatly according to the duration of the pregnancy, whether the child is alive or dead, and whether or not rupture has taken place.

The first positive diagnosis of ectopic pregnancy was established by Veit (1883), while Janurin (1886) was the first to recognize it in the United States. Although Stephen Rogers (1877) suggested operation for hemorrhage due to ruptured tubal pregnancy, Lawson Tate (1883) was the first to undertake the procedure. The beneficial results of surgery were clearly demonstrated by Schanta who showed a reduction in mortality from 86.9% to 5.7%.

DIAGNOSIS OF UNRUPTURED CASE

The diagnosis is indeed rarely made at this stage since the patient usually believes herself to be normally pregnant. It is usually by accident that the discovery is made, the patient often presenting herself for some other condition. For this reason it is important that every pregnant woman be examined early

R. L. SANDERS, M.D.
General Surgery

L. C. SANDERS, M.D.
Internal Medicine

M. P. KENDRICK, D.D.S.
Oral Surgery

J. CASH KING, M.D.
Consulting
Roentgenologist

Suite 324—Physicians and Surgeons Building
Memphis, Tennessee

J. A. HUGHES, M.D., F.A.C.S.

Eye, Ear, Nose and Throat

Suite 1805-6 Sterick Bldg.

Memphis, Tennessee

and repeatedly.

The diagnosis here rests largely upon the history, symptoms, and physical examination, and very little aid being obtained from simple laboratory procedures. Many authorities lay more stress on a careful history.

In the history, it is important to remember that the great majority of cases occur in multipara after 30 years of life. Many of these patients have had a period of relative sterility for several years. Gordon, in reporting 120 cases, states that 41 of this number had borne no children within the previous five years. In this same series, 28% had a history of specific infection, 56% had aborted previously, 20% had a febrile post-partum with their last labor, and 20% had undergone a previous pelvic operation. The high incidence of abortion may be disregarded as this is a common occurrence, but the high incidence of infection, specific or otherwise, cannot be disregarded. The importance of a laparotomy scar cannot be over estimated. Quite a few authors consider a previous history of severe dysmenorrhea as being especially significant.

The menstrual history is of extreme importance. The usual train of events is that a patient, who was formerly regular in regards to menstruation, missed a period and considers herself to be pregnant. About two weeks later she often shows an irregular "spotting" of blood. Profuse bleeding is not unusual, but occasionally the woman will menstruate one or two months in spite of the pregnancy.

In addition to the above menstrual irregularity the other concomitant symptoms and signs of pregnancy soon appear. Morning nausea, breast changes, enlarged uterus and discoloration of mucous membranes. In case the pregnancy continues the uterus attains the size of a two or three months pregnancy and then remains stationary. The patient may "feel different" and may have occasional temporary, cramping or lancinating pains in one side of the pelvis. If a bi-manual examination is made at this time in addition to the enlarged uterus and softened cervix, one usually finds an elastic, painful tumor at one side of, in front of, or behind the uterus, displacing it from the normal position. The cervix is usually tender to pressure.

Later, the decidual lining of the uterus may be expelled as a "fleshy" cast. Much significance has been attached to the finding of decidual tissue without villae, but the same condition may occur in membranous dysmenorrhea. Some go so far as to curette the uterus for diagnostic purposes in the hope of finding such tissue. This is not recommended by Dr. Miller since there is danger of interrupting a normal pregnancy plus that of severe hemorrhage. Routh, of London, states that it is permissible to make a positive diagnosis upon the finding of such a case accompanied by the presence of a growing pelvic tumor.

After 4-5 months colostrum appears in the breast, the abdomen enlarges, the intermittent pains continue, and frequent bleeding may occur. After five months, fetal movements are detected and the heart sounds soon appear. Later, unless rupture occurs, false labor sets in and unless artificially delivered the child dies. When this occurs, absorption of the amniotic fluid takes place and the abdomen rapidly shrinks. This sign is almost pathognomonic.

DIFFERENTIAL DIAGNOSIS BEFORE RUPTURE

The differential diagnosis at this stage should first consider **normal pregnancy** in a retro-verted uterus. No operation should be performed for an unruptured ectopic pregnancy without a complete bi-manual examination under ether anesthesia in order to rule out normal pregnancy (Graves). The round ligaments on the affected side will be found central to the tumor mass and lateral to the uterus.

Adnexal disease must be ruled out by means of the history of continuous pain and fever with leukocytosis. The value of serologic tests is obvious in differentiating inflammatory disease from pregnancy. The Obderhalden test, recently modified by Leutge and Mertz shows accuracy to 88% and should be of aid in a confusing clinical picture. The phloridizinglycosuria test, on account of simple technique is of practical use, being quick with an accuracy of 80%. In addition to these, the sedimentation test of red blood cells, inaugurated by Linzenmeier, in a large number of cases may help solve the diagnostic problem, since the sedimentation time is nearly normal in tubal pregnancy, but markedly short in inflammatory conditions.

Appendicitis must be excluded by detail history of the train of symptoms and by careful local physical examination. In appendicitis, Frommer emphasizes transmitted pain from pressure in the left iliac fossa, skin hyperesthesia, and pain due to passive rotation to the body. **Diverticulitis** must be excluded by history, fever and leukocytosis, and careful physical examination.

Pelvic Tumors must be ruled out by the history, careful bi-manual examination, serologic tests, and glycosuria test.

Acute Parametritis may be excluded by the presence of fever, chills and leukocytosis. The above tests would also be valuable.

DIAGNOSIS OF RUPTURED ECTOPIC PREGNANCY

A rapid diagnosis at this stage is of much more importance than in unruptured cases. In the latter, a small degree of delay is permissible, but after rupture occurs it is necessary that imperative procedures be instituted in order to save life.

The diagnosis here, as in unruptured cases, rests largely on a careful history and physical examination. The history is that given before for unruptured cases plus the concomitant symptoms of a ruptured viscus with free bleeding into the peritoneal cavity. Rupture often occurs while the patient is performing some undue exertion. Many cases occur in the bathroom. A few occur while the patient is quiet in bed.

The train of symptoms is that of a sudden agonizing pain followed immediately by collapse. Williams advises that one should consider sudden collapse with symptoms of abdominal hemorrhage in a woman in the childbearing age as first hand evidence of ruptured ectopic pregnancy. He also states that if the collapse becomes more profound with subnormal

HENRY G. RUDNER, M.D.

Clinic—Internal Medicine

1108 Madison Avenue

Memphis, Tenn.

temperature, the condition is apt to be complete rupture, while if rapid recovery ensues, tubal abortion is apt to be the factor. In some cases fainting does not occur, but the patient nearly always complains of sharp lancinating pain which is more or less in one side of the pelvis. In case frank rupture has taken place, the patient is in collapse from the onset with deathly pale color, cyanosed lips, rapid, feeble pulse, low blood pressure, and often sighs or gasps for breath. Later thirst increases, fever is often noted, and jaundice may develop. Pain is constant and with uterine bleeding constitutes a very important factor in diagnosis. Vomiting is often co-incident with rupture; chills frequently follow rupture. Painful defecation and urination are common. If the rupture is survived, irregular, profuse menstruation may follow.

Physical examination after rupture will usually disclose extreme tenderness in the vault of the vagina, which Dr. Miller considers as almost pathognomonic. In addition to the signs of pregnancy, a mass of indefinite outline and peculiar consistency may be found posterior to or at one side of the uterus. After several days or weeks the coagula in the pelvis is walled off and examination at this time will often give a crackling sensation resembling that of parchment paper, due to that blood clot breaking between the fingers. Gordon states that 94% of his cases show intense pain on manipulating the cervix. Rigidity and tenderness of the abdominal wall are usually found early. Later distension may develop below the navel. The Mayo-Robinson sign of shifting dullness is found in cases where much free bleeding has taken place. Cullen's sign, a bluish discoloration about the umbilicus is not constant, but is significant when present. The same holds true for referred shoulder pain. Usually there is little or no elevation of temperature. Low temperature with evidence of an acute abdominal lesion is characteristic.

The blood studies of Farrar are often of great value. Massive hemorrhage is usually accompanied by a high, fluctuating white cell count with a neutrophil predominance. Anemia rapidly ensues with dropping of the hemoglobin and red blood cell count.

In case the child survives the rupture, the diagnosis is rarely made until false labor sets in. If an examination is made, one usually finds a small uterus displaced by the tumor sac. The fetal movements are often painful and the fetal parts may be felt more distinctly through the abdominal wall and this sac.

DIFFERENTIAL DIAGNOSIS AFTER RUPTURE

Perforated Peptic Ulcer must be ruled out if possible by the history of previous digestive disorders. The high, fluctuating leukocyte count in ectopic pregnancy is of great importance as well as the anemia with low hemoglobin. In either case the treatment is immediate operation, haste being imperative.

Acute Appendicitis must be excluded by the orderly train of symptoms: epigastric pain, nausea, vomiting, and later localization of pain in the right iliac fossa. Distinct tenderness in the vault of the vagina should be absent in appendicitis. The history of pregnancy, decidual cast, bleeding, and fluctuating white count would serve further to rule out appendicitis.

Acute Salpingitis is usually bilateral and the stigma of gonorrhea is often found about the external

genitals. The onset is more sudden in ectopic pregnancy with pain without apparent cause and without elevation of temperature. The high, fluctuating white count and anemia of ectopic pregnancy are contrasted to the steady leukocytosis of salpingitis. Tenderness of the vaginal vault is greater in ruptured ectopic pregnancy.

Torsion of an Ovarian cyst must be eliminated by the history of pregnancy and the blood count taken into consideration with a careful bi-manual examination.

Ruptured Ovarian Cyst must be likewise ruled out.

Acute Intestinal Obstruction rarely causes continuous pain, while vomiting would be more pronounced. The history and signs of pregnancy plus the examination and blood count would serve to rule out this condition.

Uterine Abortion must be ruled out by the pain which is less severe and is nearer the center of the pelvis. Careful bi-manual examination and the blood count should help to clear up the diagnosis. The finding of villae in the decidual cast would indicate uterine abortion.

TREATMENT BEFORE RUPTURE

Here there is little controversy, it being the universal opinion that ectopic pregnancy should be considered as a malignancy. In view of all available statistics, the possibility of securing a live child is so remote that it cannot be compared to the potential danger to the life of the mother. Only after seven months has a viable child any claims to consideration. The proposal to defer active treatment in the early stages in the interest of the child is only sentimental after the possible terminations of an extra-uterine pregnancy are understood.

An intra-tubal rupture may form an hemotococle, hematosalpinx or secondary intra-peritoneal rupture. Intra-peritoneal rupture may be primary. An intra-ligamentous rupture may form a hemotoma or undergo secondary rupture. In all cases moderate or profuse hemorrhage may occur. The child may live to term, false labor setting in and followed quickly by death. The circulation is slowly abolished and the sac shrinks. Before three months, the products may be absorbed, or form a carneous mole or placental polyp. After three months calcification, mummification, or infection occurs. Peritonitis, septicemia and death may follow.

In the first six months the important thing is how to best remove the condition. Prompt laparotomy with removal of the entire affected organ is best in order that a recurrence be prevented.

In the latter months prompt operation is also best. If the child is dead, it is better to wait a few days until the placental circulation stops, except in the intra-ligamentous types, to avoid the danger

WALTER A. RUCH, M.D.

Practice Limited to Obstetrics

Suite 202 Physicians and Surgeons Bldg.

899 Madison

Memphis, Tenn.

of hemorrhage.

TREATMENT OF RUPTURED ECTOPIC PREGNANCY

While most authorities agree on the treatment of an unruptured case, we find quite a diversity of opinion in regards to the treatment after rupture has ensued. There seems to be a lack of real understanding as to what constitutes definite indications for immediate or delayed operation.

From 1921 to 1925 most writers favored early operation. Danzis advises immediate operation before there is marked loss of blood, vitality and resistance, in the belief that the patient will react under anesthesia. E. Hempel advises immediate operation because the prognosis of operation can be estimated, but no one can estimate the accidents of waiting. Charles Mayer advocates immediate operation and advises saline and blood to combat shock. M. J. Owens states that the patient will not react while there is active bleeding, deferring operation only in extreme shock. Sands states that he has not seen a patient die under an immediate operation. Dr. Miller advises early operation except in severe shock, with ligation of the bleeding vessels, followed immediately by saline or blood transfusion depending upon the condition of the patient. No infusions or transfusions are given before operation since these tend to restore the normal blood pressure and thus favor bleeding. Auto-transfusion may be of value if a donor cannot be procured. E. M. Hawkes reviewed 824 cases of which 187 were in collapse. The mortality following immediate operation was 8.8% and that with delayed operation was 17%. The mortality has been high as 80% with expectant treatment and as low as 2% after operation under expert hands.

Those who advocate delayed operation in deep shock lay particular stress on the pulse rate, blood pressure and hemoglobin. Those with pulse above 100, blood pressure below 90 systolic, and hemoglobin below 50% are poor operative risks. Operation is deferred until reaction from shock takes place. One author advocates morphine and lowering of the head, while another argues that Fowler's position is best in order to prevent separation of the clot. Another apparently logical argument for delay is that the depression may be so great in tragic cases that clots form in the bleeding vessels and hemorrhage stops. This is refuted by the argument that the increased tension of recovery from shock will drive out the clots and renew hemorrhage.

Gordon advocates operation in the reactive stage as determined by pulse, blood pressure, and leukocytosis. His pre-operative treatment consists in absolute rest, lowered head, morphine immobilization, heat, and no stimulation. He states that hypodermoclysis of saline is slowly absorbed and is not contraindicated. He occasionally transfuses before operation. Reese states that it is not necessary to rush in and operate without treating shock first. He also states that only 5% refuse to rally from shock while 50% die if operated on in acute shock, thus to operate by all means, but in such a manner so as not to further jeopardize a patient already in a critical condition. Among the eminent authorities advocating such conservatism is Polak. He states that less than 1% bleed to death. After rest and morphine all cases will react and become safe. Transfusions are

used during operation in severe cases, but are preferably given after the bleeding vessels have been ligated.

The immediate indication of operation is to control hemorrhage. Repair of the structures may then be carried out if the condition of the patient permits. Since the danger of recurrence is 5-15% it is best to remove the damaged tube. The question of preserving the other tube depends on the age of the patient, her desire for children, and sentimental reasons. The general indication is to remove as much of the clotted blood as is consistent with the patient's condition, but not to subject her to a long operation.

In case of hematococle there is not so much haste, but operation is generally indicated to avoid the danger of secondary rupture with hemorrhage and infection. Some evacuate big incision through the vagina, but the abdominal route is safer in case hemorrhage should ensue. Some advocate conservatism, but this is exposing the patient to unnecessary risk.

In case the child survives rupture and a secondary abdominal pregnancy has taken place operation is immediately indicated. The prospects of bringing an abdominal pregnancy to term and of securing a safe delivery of a normal child are too remote for routine procedure. In certain cases it may be considered, but this should never be the rule, because the majority, if viable, are deformed and the danger to the mother is prohibitive. If the child is viable, operation should be performed at once as false labor may set in at any time and the child's life be lost.

If the child is dead and the placental circulation is still active, it is best to wait. If the danger of removal of a live placenta is too great due to the wide attachment over the intestines, it is probably best to tie the cord off short and have the placenta in situ.

A drain may be left in and the placenta allowed to come away by piece-meal, but this carries a great danger of infection and hemorrhage. It would thus seem that complete closure is best.

SUMMARY AND CONCLUSIONS:

A constant reduction in the mortality of ectopic pregnancy depends upon its early clinical recognition and treatment.

The diagnosis is rarely made before rupture takes place.

In cases with frank evidence of massive hemorrhage, the general practitioner usually makes the diagnosis. In cases of lesser amounts of bleeding the clue is not so obvious. When hemorrhage is negligible there is a great necessity for a careful history and painstaking and methodical search for symptoms and signs caused by the escape of blood into the peritoneal cavity, or wall or lumen of the tube.

Ectopic pregnancy, unless artificially relieved by immediate operation, always causes the death of the

FRANK W. SMYTHE, M.D.

Practice limited to

Surgery and Radium Therapy

Baptist Hospital Annex

Memphis, Tenn.

child and frequently that of the mother.

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The Mississippi State Hospital Association

LEON S. LIPPINCOTT, M.D., Editor—Vicksburg
KATE LOU LORD, R.N., Associate Editor—Hattiesburg

REPORT OF THE SECRETARY*

During the year just passed your secretary has endeavored to carry on the duties of his office as directed in the By-Laws of the Association.

In October and November, at the request of the Executive Secretary of the American Hospital Association, acting for the Joint Committee of the American, Catholic and Protestant Hospital Associations, letters and questionnaires asking for data regarding local hospital conditions were sent to all hospitals of Mississippi. The information was asked in order that the joint committee might intelligently report claims of hospitals for consideration on any project that might come before the federal government and that our association might in the same way be informed in presenting claims on behalf of our hospitals of Mississippi for consideration before state, county or city Authorities.

The information received was compiled and reported. However, only about 75% of hospitals replied to repeated requests. It is to be supposed that hospitals are members of this association for the purpose of concerted action for good. It is difficult to understand how members expect the association to act for them when they consistently ignore all requests for information.

*Presented at the Sixth Annual Session of the Mississippi State Hospital Association, Biloxi, May 13, 1935.

Governments and legislatures is this day want to know facts. Only thru being able to present accurate figures will the efforts of your association in your behalf command attention.

As for the past two years, in February, information in regard to hospital activities for 1934 was asked of all member hospitals. Some hospitals replied promptly, others only after much persuasion. Your secretary now has more or less complete information for 1934 on 48 member hospitals. Some of the information is given below. It would be more valuable if it were complete.

1934—47 MEMBER HOSPITALS REPORTING

12 TO 25 BEDS									
		Daily		Total		Out			
		Av. Total		Hos. State		Taxes Out			
	Beds	Bas.	Pats	Pats.	Days	Aid	Paid	Clinic	Visits
1.	12	3	4	230	1,472	Yes	Yes	No	
2.	15	2	7	158	1,024	Yes	Yes	Yes	250
3.	15	1	8	331	3,004	Yes	No	Yes	150
4.	15		7	375	2,540	Yes	Yes	No	
5.	20	5	6	542	1,973	No	No	No	
6.	20	2	6	274	2,192	Yes	Yes	No	
7.	20	2	5	228	1,896	Yes	Yes	No	
8.	23	2	3	211	1,127	Yes	No	No	
9.	24	2		268		Yes	Yes	Yes	9,911
10.	25	5	12	850	4,380	Yes	Yes		
11.	25	4	4	358	1,454	Yes	Yes	No	
12.	25	2	7	446	2,385	Yes	No		
13.	25	6	12	443	3,252	Yes	Yes	No	
14.	25	3	4	304	1,506	Yes	Yes	No	
15.	25	6	10	519	3,650	No	Yes	No	
16.	25	2	7	345	2,430	Yes	Yes	Yes	2,867
17.	25	2	5	447	2,332	Yes	Yes	No	

26 to 50 BEDS									
18.	26	2		993		Yes	Yes		
19.	28	4	13	470	6,116	Yes	Yes	Yes	9,250
20.	29	2	10	603	3,550	Yes	Yes	Yes	
21.	30	5	11	485	3,502	Yes	No	No	
22.	30	5	16	1,014	5,664	Yes	Yes	No	
23.	35	4	21	836	6,688	Yes	Yes	Yes	6,708
24.	35	5	12	523	4,380	Yes	Yes	Yes	3,650
25.	35	3	16	590	5,912	Yes	No	No	
26.	35	5	11	820	4,585	Yes	Yes	No	
27.	35	2	14	862	5,172	Yes	No	Yes	150
28.	38	2	12	480	5,280	Yes	No	No	
29.	40	2	15	706	5,648	Yes	Yes		
30.	44	6				No	Yes	Yes	
31.	45	5	10	638	3,762	No	Yes	Yes	597
32.	50	8	11	561	4,039	Yes			
33.	50	7	8	543	2,978	Yes	No	No	
34.	50	5	16	1,282	5,642	No	Yes		
35.	50	2	10	435	2,906	Yes	No	No	
36.	50	6	9	413	3,107	Yes	Yes	Yes	7,268
37.	50	5	16	711	5,332	No	Yes	No	
38.	50	4	24	1,279	6,970	No	Yes	Yes	19,234

Compliments of

DR. JOHN P. HENRY

Suite 2005-6-7 Sterick Building

Memphis, Tenn.

51 to 100 BEDS

39.	55	12	14	1,255	5,110	No	Yes	No	
40.	55	12	25	2,033	9,202	No	No	No	
41.	65	5	11	308	4,015	Yes	No	Yes	
42.	67	8	12	575	4,340	No	Yes	Yes	
43.	70	5	31	1,300	11,315	No	Yes	Yes	3,355
44.	75	12	22	1,407	7,994	No	No		
45.	75	6	32	1,484	11,516	No	Yes	Yes	21,201
46.	87	8	50	3,063	18,454	No	No	No	
47.	100	14	47	1,923	18,564	No	No		

Reports of 47 member hospitals are shown. Of these, 17 hospitals have from 12-25 beds; 21 from 26-50 beds; and 9 from 51-100 beds.

The 47 hospitals have a total of 1,848 beds (smallest, 12 beds, largest, 100 beds), average 39 beds; and a total of 220 bassinets (one has none; smallest number 1; largest number, 14), average 5 bassinets per hospital.

In 1932, 25 hospitals had an average of 44 beds per hospital; in 1933, 43 hospitals had an average of 38 beds per hospital.

Forty-four hospitals with 1,780 beds had an average daily number of patients of 606 for the year of 1934; an average of 13.8 patients per day per hospital and a bed occupancy of 34.6%.

In 1932, the average bed occupancy for 25 hospitals was 29%; and in 1933, for 32 hospitals an average bed occupancy of 29.9%.

For 1934, the average bed occupancy for 16 hospitals of 12-25 beds was 31.5%; for 19 hospitals of 26-50 beds, 33.3%; and for 9 hospitals of 51-100 beds, 37.4%. There was apparently a general increase of 4.7% over the year of 1933.

In 1934, 46 hospitals with 1,804 beds had a total of 33,921 patients during the year, an average of 737 per hospital. In 1932, 25 hospitals with 1,091 had an average of 317 per hospital; and in 1933, 42 hospitals with 1,596 beds had an average of 539 per hospital—a decided increase for 1934.

In 1934, 44 hospitals with 1,754 beds had a total of 218,361 hospital days or 4,963 per hospital days or 4,963 per hospital or 125 hospital days per bed.

STATE AID

Thirty-two hospitals received state aid in 1934; 15 did not. 15 of 17 hospitals of 12-25 beds received state aid; 16 of 21 hospitals of 26-50 beds received state aid; and one of 9 of 51-100 beds received state aid. 68% of 47 member hospitals received state aid in 1934.

TAXES

Fifteen of 46 hospitals paid no taxes in 1934. In 1933, 13 of 43 hospitals paid no taxes. The classification for exemption of taxes in 1934 were given as follows:

City hospital (1); non-profit sharing corporations (1); tax exempt charter (1); owned and operated by city and county (1); county institution (1); non-profit making institution—Christian organization (1); no answer (1); does not pay dividends to anyone, money made on pay patients goes to charity (1); not assessed (1); church operated, maintaining charity ward (1); vast amount of charity work and a denominational institution (1); non-profit sharing organization (1); city owned hospital (1); do not pay dividends and maintain a charity ward (1).

OUT PATIENT CLINICS

Seventeen hospitals maintain out patient clin-

ics; 22 do not. Eight hospitals did not give information. Thirteen hospitals furnishing information had 84,591 clinic visits in 1934, an average of 6,507 per clinic. The smallest number of visits was 150; the largest number 21,201.

In 1933, 17 of 43 hospitals maintained out-patient clinics. The smallest number of visits in any clinic was 55; the largest number was 18,349; average 4,912.

Patients—Per Cent

	Paid in Full	Paid in Part	Pay Paid None	Adm. As Char.	Per Diem Cost	More or Less 1933	Losses Auto. Accid. Cases	Beds
1.				0	\$3.58	Less	\$ 100	12
2.	5	65	10	20	2.35	Same	250	15
3.	50	30	20	0	4.20	More	600	15
4.	60	30	10	0			200	15
5.							0	20
6.	30	50	10	10	3.15	More	80 %	20
7.						Less	0	23
8.							50 %	24
9.	48	50	2	0				25
10.	85	15	0	0	6.43	More	300	25
11.					4.41	More	0	25
12.	19	27	51	3	3.33	More	8 %	25
13.	60	15	15	10	5.40	Same	25	25
14.	65	25	10	0	5.00	More	0	25
15.	30	60	5	5	3.60		100	25
16.	60	35	5	0			250	25
17.	50	30	15	5		Same	50 %	26
18.	50	25	10	15	3.86	Same	50 %	28
19.	50	12.5	12.5	25	3.00	Same	100	29
20.					4.80	Less		30
21.	85	5	5	5	4.73	More	200	30
22.	25	40	15	20	5.04	More	60 %	35
23.	59	17	2	22	3.75	More	450	35
24.	65	10	4	21	4.03	Less	375	35
25.	75	15	5	5	6.00	More		35
26.	60	25	2	13	4.75	More		38
27.					4.16	Same		40
28.							25 %	44
29.	59	29	10	2			75 %	45
30.					5.20		325	50
31.					4.50	Less	45	50
32.	60	20	15	5	5.08	Less	300	50
33.	85	4	5	6	2.10	More		50
34.	56.4	29.2	8.4	6	3.43	Less		50
35.	60	35	2	3				50
36.	75	20	5	0				55
37.	75	15	6	4	5.60	Less	750	55
38.				0	4.75	Less		67
39.	20	40	30	10				70
40.					4.23	Less		75
41.	30	50	15	5	5.00	Same	1,500	75
42.	40	30	30	0			3,000	87
43.	82.7	0	4	13.3			300	100

In 1934, 31 hospitals replying, 54% of all patients paid in full; 27.6% paid in part; 10.9% of patients ad-

ROSS E. ANDERSON, A.B., M.D.
Standard Life Bldg. (Suite 515)
Jackson, Miss.

Bronchoscopy
EYE, EAR, NOSE AND THROAT
Ionization for Hay Fever

mitted as pay patients paid nothing; and 7.05% were admitted as charity patients.

In 1932, in 28 hospitals approximately 52% of all patients paid in full; 26% paid in part; 12% were admitted as pay patients and paid nothing; and 13% were admitted as charity.

In 1933, in 38 hospitals, 51.6% of all patients paid in full; 20% paid in part; 10% were admitted as pay patients and paid nothing; and 18.4% were admitted as charity.

There was a definite increase in the number of patients paying over the two preceeding years. There was a definite decrease in the number of patients admitted as charity.

PER DIEM COSTS

Twenty-nine hospitals furnishing information showed an average per diem cost of \$4.33. The lowest cost per day was \$2.10; the highest \$6.43.

Twelve hospitals reported per diem costs as more than in 1933; 10 reported costs as less than in 1933; and 7 reported costs as approximately the same.

LOSSES FROM AUTOMOBILE CASES

Twenty-three hospitals lost \$9,170.00. Four hospitals reported no loss; the smallest loss reported was \$25.00; the largest loss \$3,000.00. The average loss was \$399.00.

For the year of 1933, 22 hospitals reported an average loss of \$449.48.

For eight other hospitals the smallest loss was 8%; the greatest loss was 80%; the average was 50%.

Twelve hospitals replied that amount of loss was not known or made no answer.

LABORATORY SERVICE—48 HOSPITALS—1934

Question: Do you have your own clinical laboratory? Answer: Yes, 43; No, 5; "Use county laboratory," 1; "Send specimens to state laboratory," 1.

Question: Who signs reports with degree? Answer: M.D., 19; Technician, 15; R. N., 9; No answer, 5.

Question: How many autopsies were performed in your hospital in 1934? Answer: 16, 1; 13, 1; 10, 2; 5, 3; 4, 1; 3, 2; 2, 3; 1, 6; 0, 35; No answer, 4.

Question: Are tissues examined microscopically? Answer: Yes, 38; No, 6; Part, 1; No answer, 3.

Question: Are all tissues examined microscopically? Answer: Yes, 6; No, 25; No answer, 7; "Suspicious tissue," 3; "Part," 3; "Not all," 2; "All major," 1; "When indicated," 1; Four hospitals state that all tissues are examined microscopically in their own laboratories.

Question: Are tissues for examination sent out? Answer: Yes, 30; No, 1; No answer, 6; "Some," 5; "When necessary," 1; "If suspicious, yes," 1; "On many cases," 1; "Part," 2; "Sometimes," 1.

Question: Should microscopical examination of all tissues be a requirement for membership in the Mississippi State Hospital Association? Answer: Yes, 11; No, 37; No answer, 5; "All suspicious tissues," 1; "It would be ideal but the hospital would have to bear most of the expense," 1; "Not practical at this time," 1; "Unable to say if these doctors would be willing," 1; "I see no reason for examination of all tissues removed," 1.

Question: Do you have your own X-ray laboratory? Answer: Yes, 47; No answer, 1.

Question: Who signs report with degree? Answer:

M.D., 36; Technician, 4; R.N., 2; Staff members, 2; No answer, 4.

Dr. T. E. Ross Succumbs

HATTIESBURG, Miss., Sept. 29.—Dr. T. E. Ross, Sr., prominent physician and surgeon and one of the pioneer citizens of Hattiesburg, died at his home at 11 o'clock this morning after an eight weeks' illness. He was 71 years of age.

Funeral services will be conducted at 3:30 p. m. Monday at the First Baptist Church. Burial will follow in the new city cemetery.

Dr. Ross was born Feb. 18, 1864 at Philadelphia, Neshoba County, Miss., a son of Robert M. and Susan Spears Ross.

He lived on a farm while attending schools in Neshoba County. When 21 years old he entered the College of Physicians and Surgeons at Baltimore, Md., and graduated in 1887.

For a few years he practiced in his home community and then, while prospecting for a location decided on Hattiesburg, to which village he came in 1892. That same year he married Miss Dora Elizabeth Mars, of Neshoba County.

Dr. Ross financed the Ross Building on Front Street, one of the first large office structures ever erected here. He was instrumental in organizing the campaign for the Gulf and Ship Island Railroad Hospital and served as surgeon for that railroad for many years. He was also chief surgeon for the Mississippi Central Railroad Company and for the J. J. Newman Lumber Company during his life-time.

The hospital he founded later was operated by the Kings Daughters and still later by the Mississippi Methodist Conference which sponsored a new and modern plant. Dr. Ross maintained his connection with the institution as chief of staff.

Dr. Ross' work in his own profession won recognition on numerous occasions. He has held high offices in the Mississippi Medical Association and has participated in the American Medical Association's programs. He served on the board of state medical examiners and once was president of the Mississippi State Board of Health.

Constantly interested in the religious welfare of his home town, Dr. Ross took a leading part in the affairs of the First Baptist Church of which he was a faithful member. He served on the board of deacons until illness forced him to relinquish most of his extra-affiliations.

Of the many enterprises with which Dr. Ross was identified, the one that probably gave him the greatest pleasure was the Mississippi Woman's College, located in Hattiesburg. He was the first and only chairman of the board of trustees of this college after it became the property of the state Baptist Convention.

Dr. Ross was a Thirty-Second Degree Mason and at one time was a commander of the Knights Templar. He was an honorary member of the Hattiesburg Kiwanis Club.

He was a member of the board of directors of the First National Bank and was one of the founders of the Hattiesburg Bank of Commerce. His real estate holdings were extensive.

Dr. Ross leaves his widow, three sons, Dr. T. E. Ross, Jr., Robert M. Ross and Francis Ross; and two

daughters, Mrs. Thad Fowler and Miss Dora Ross, all of Hattiesburg.

Communications

Amory, Miss., Aug. 10, 1935

Editor, Memphis Medical Journal
Memphis, Tenn.

Dear Sir: In current issue your journal there appears an article entitled "Charity Yesterday and Today." It is good reading, but in my thinking it does not cover the ground. I do not think there is anything specially wrong with "medical economics" per se. The whole economic system is out of joint. The wealth of the nation is held by a few men. There is but one source of wealth, namely, labor. It can not be **thought** into existence. It is true that labor must be guided by thought if it is to produce wealth. In the beginning of the history of the race, God said, "By the sweat of his face shall man eat bread"—the sweat of his own face, not the sweat of another's face. Five million people hold 95 percent of the nation's wealth—eighty millions have absolutely nothing. The five million have never hit a stroke of wealth-producing labor. Practically all labor is done by the eighty millions who have nothing. Ten millions of these are not permitted to work at slave's pay. A slave is given food, clothing and a house in which to live, plus medical care when needed. There has never been—there will never be—too much produced. When labor is properly remunerated, there will be no surplus. And the doctors will receive ample pay for their services. The doctors will then, as they have always done, care for the medical needs of the people, and the people will care for the needs of the doctors. Labor of all kinds, whether on farms or in factory, simply must get in return sufficient money with which to buy **all** necessities and **some** luxuries—else our form of government and our civilization will crumble and fall. Ours is no longer "the land of the free and the home of the brave." Would to God it were. We are a nation of serfs and slaves. A far-visioned poet warned us that we might become the "dumb driven cattle." So we have. But I am persuaded that there is enough Anglo-Saxon Blood in American veins to break the shackles that have been fastened upon a once free people. I am not a communist in any sense, but I agree with Mr. Roosevelt in his statement that the great fortunes of the nation do not belong to the men who hold them, but to society—especially to those whose labor has produced this wealth. Only to him who labors do the necessities of life belong. A man who is physically and mentally able to labor, if unwilling to work, should be made to work, by and for the state.

I am opposed to the dole in principle, but when it was inaugurated, it was dole or revolution with bloodshed and arson. As to how doctors, as a body, should meet the situation, I think the plan that I have followed for eighteen months is the proper one. I am willing to work for any one who is **not** on relief and take my chances, as I have already done. But I steadfastly refuse to work for those who **are** on relief at cut rates. If the Government has adopted them as theirs, I think it should care for them, and not ask doctors to share the expense. They do not ask merchants to accept less for goods furnished. Why

should we be discriminated against? I do not fear that salaried doctors will be imported to treat these indigents. All states have licensing boards—they can control in this matter. I do not fear that men who are already licensed in the various states will dare accept these contracts, if the doctors who are above such practice will speak out in strong, clear tones against it. When the Government is given to understand that doctors are not scabs and that they are able and willing to give the best of medical care to the people, but that they demand a decent living in return for this service, the Government will accept our plan.

SUMMARY: Every man should be given a chance to work. If unwilling to work, he should be made to do so. Every man who works earns a decent living and should get it. When this plan is adopted there will be no economic problems. Utopian? Perhaps. So was the demand for Magna Charta.

G. S. BRYAN, M.D.

—Courtesy of the Memphis Medical Journal.

From Dr. Garrison

Officers of the Medical Societies
of Mississippi

My dear Doctors:

I wish to call your attention to an article in the New Orleans Medical and Surgical Journal for October, from Dr. Lippincott. This article contains a compilation of figures showing the members and the eligible Doctors for membership in the State Medical Association.

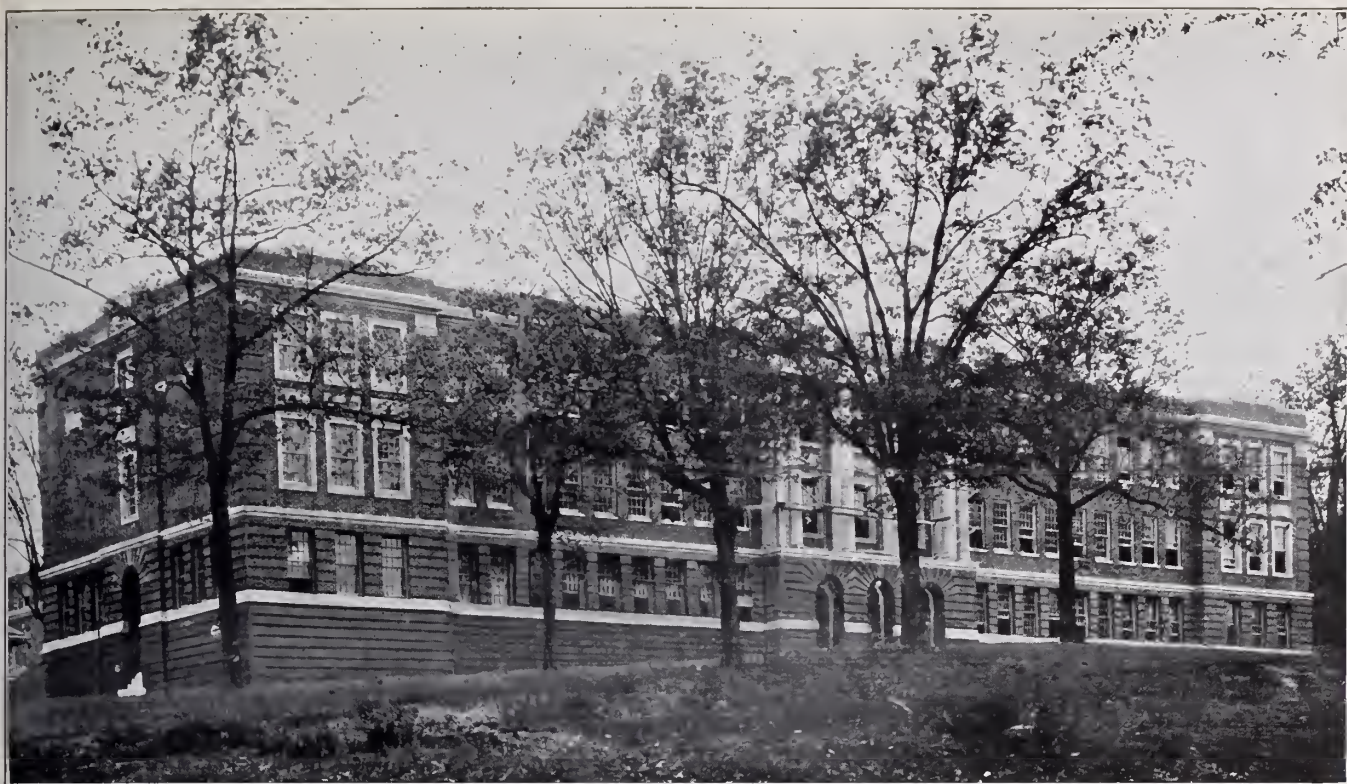
I am sure that you will agree with me that this is an alarming condition so far as organized medicine is concerned. The by-laws of the Mississippi State Medical Association makes it the duty of the President-Elect to put on a membership drive. I feel like if we will get busy right now and put on this drive in earnest, we can increase our membership at least twenty-five or thirty percent.

I am going to propose for your consideration this plan: Immediately, have your Medical Society to appoint a membership campaign committee, composed of at least two members from each county in your society and then let the members of this committee call in such other men as they may desire to help them to go out after the brother who is eligible for membership. Let's make it a personal campaign, similar to the one put on in church drives or political campaigns. I have already started this campaign in the Central Medical Society. The committees have been appointed and we are going to call a meeting of this committee and start this drive right away. We are promising those who come in right now, to give them a receipt as of December, for dues to the county and state for 1936. I would suggest that you do the same.

Suppose we have a little competitive contest. Let's see who can gain the greatest percentage of new members. What do you say? The fight is on. Let's go!

Sincerely yours,

HARVEY F. GARRISON,
President-Elect, Mississippi State
Medical Association.



ADMINISTRATION BUILDING

BLUE MOUNTAIN COLLEGE

BLUE MOUNTAIN, MISS.

Standard "A" Grade College

FULL MEMBER OF SOUTHERN ASSOCIATION OF COLLEGES

An endowed college for women, located in the hill country of North Mississippi, seventy-five miles from Memphis. Situated on the side of beautiful "Blue Mountain," one of the highest elevations in the state.

Campus of forty acres, with huge forest trees, and springs of pure freestone water flowing about one hundred thousand gallons daily.

Two of our dormitories are conducted on the co-operative plan, whereby the students do much of the housework, thus reducing expenses considerably. We have six splendid brick buildings, three of which have been constructed recently at a cost of nearly of a third of a million dollars.

Exceptional faculty of experts trained in the best colleges, universities, and conservatories of America and Europe. Special advantages in piano, pipe organ, violin, voice culture, expression, home economics, art.

No extra tuition charge for courses in commercial subjects or in home economics.

Entrance only by graduation from accredited high school or by examination. We have no preparatory department.

Swimming pool and concrete tennis courts on the campus. College golf course adjoins the campus.

The college maintains one of the best and largest summer sessions in the state.

Write for catalogue and new booklet of campus views.

LAWRENCE T. LOWREY, PRESIDENT

Sup. Hooper

THE NEW FENWICK SANITARIUM

Nervous and Mild Mental Disorders and Drug and Liquor Addictions

COVINGTON, LOUISIANA

OVER FORTY-THREE YEARS OF SUCCESSFUL OPERATION

Doctor, we wish to call your attention to the merits and claims of the above named Institution, especially for Nervous and Mild Mental Disorders—for Drug and Liquor Addictions and Infirmities of Old Age.

This Institution is true to organized medicine and its principles.

It is registered by the American Medical Association.

It is a member of the American Hospital Association.

It is a member of the State Hospital Association.

It is a member of the National Association of Private Psychiatric Hospitals.

The staff of physicians of this Institution are all members or Fellows of the American Medical Association and its subordinate societies. They are physicians, who after having graduated in medicine, have had the best of medical training in the large graduate schools of medicine and hospitals of the East and are especially prepared for their respective specialties. These physicians give their entire time to the patients in the sanitarium doing no outside work.

Its clinical and pathological laboratory is complete and under the supervision of two of the best pathologists in New Orleans.

Correct diagnosis is the key note for the New Fenwick Sanitarium—no half way, and haphazard diagnosis is made here.

The methods of examination are most thorough. Each patient is given a complete Mental, Neurological and Physical examination including all laboratory examinations. Treatment is individual for each according to indications.

The latest and best approved methods of therapy are carried out here at all times.

Hydro-therapy, physio-therapy, electro-therapy and drug-therapy are used as indicated.

The New Fenwick Sanitarium is noted for the individual attention given each patient among pleasant and home-like environments.

This Institution prides itself on the character of nourishment and diet furnished the patients, not only at meal time but otherwise.

For forty-three years it has cared for and brought back to health Mental and Nervous patients, many cases being brought to us from other Institutions.

In the last forty-three years, it has studied and treated many Liquor and Drug Addicts.

The buildings of the New Fenwick Sanitarium are new and constructed especially for the class of patients it treats. They are built of pressed brick, steel and concrete, with every comfort, electric fans, steam heat, etc. All rooms are outside rooms with good ventilation and attractively furnished. The grounds are well kept and inviting with flowers, shrubs, shade trees and rest benches.

This Institution is patronized by the better class of people. Its services are offered to the discriminating physicians for the type of patients named above as a high class Institution in every sense and meaning of the word.

It is located in Covington, Louisiana, a section so noted for its health qualities, and is easily accessible by concrete highways, railroads and water routes. It is only one hour and a half by automobile from the center of New Orleans.

THE MISSISSIPPI DOCTOR

OFFICIAL ORGAN

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 13.

BOONEVILLE, MISSISSIPPI, NOVEMBER, 1935

NO. 6

ARMISTICE, 1935

With crash and boom of shot and shell,
With ghastly growls of hounds of hell,
With ruthless War upon his prey,
We plead, O, Lord, for peace to-day.

May Mussolini shield his sword.
May Ethiopia halt her horde.
And may the League of Nations find
The path to peace for all mankind.

Tear off the mask from Murder's face.
Let Reason rule the human race.
And teach men that their greatest good
Comes from their common brotherhood.

Give glamour to the pomp of peace
Till war's proud pageantry shall cease.
Let every nation learn the truth
That life, not death, deserves its youth.

Let drum and trumpet sound no more.
Let battle flags on every shore
Be furled forever, Lord, we plead.
Teach men to march where Love shall lead.

Teach men to scrap their tools of war
Along with Woden, Mars and Thor.
Lord, speed the day when swords shall rust
And men and nations shall be just.

Must some vain Caesar vaunt and vex?
Some puny Charlemagne perplex?
Must ancient people's, proud and free,
Obey some despot's bold decree?

Shall those who wear the name of Christ,
Like heathen harpies, be enticed
To foul with their unhallowed feet
A race's offspring or retreat?

With prayers for peace from high and low,
God give us wisdom to forego
Each petty pride, each horrid hate.
God make us good and true and great.

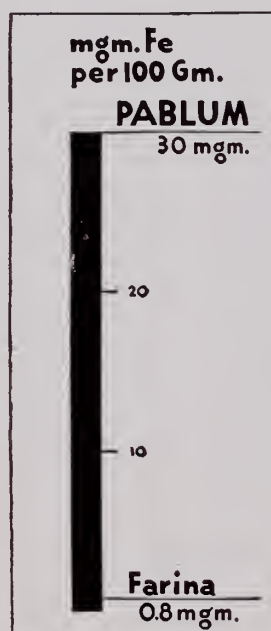
Lord, let the spirit of Thy Son,
The Prince of Peace, the Holy One,
Teach every nation, tribe and clan
The blessed Brotherhood of Man.

—DAVID E. GUYTON
Blue Mountain, Miss.

THE N.Y. ACADEMY
OF MEDICINE
APR 25 1938
LIBRARY

For bland diet therapy, especially ULCER cases — **PABLUM**

FAR too often the bland diet prescribed for gastric ulcer, colitis, and similar gastro-intestinal disorders is a deficient diet. An analysis made by Troutt of ulcer diets used by 6 leading hospitals in different sections of the country showed them to be "well below the Sherman standard of 15 milligrams" in iron and low in the water-soluble vitamins.¹ "Vitamin B would appear to be represented at a maintenance level in most cases," writes Troutt, "but the possible relation of vitamin B to gastro-intestinal functions and appetite should make one pause before accepting a low standard."



Although Pablum has a low fiber content it is 37 times richer than farina in iron and in calcium, 4 times richer in phosphorus, and $4\frac{1}{2}$ times richer in copper.

Low in Fiber — High in Iron

Pablum is the only food rich in a wide variety of the accessory food factors that can be fed over long periods of time without danger of gastro-intestinal irritation. Its fiber content is only 0.9%. Yet Pablum contains 37 times more iron than farina and is an excellent source (+ + +) of vitamins B and G, in which farina is deficient. Supplying $8\frac{1}{2}$ mgms. iron per ounce, Pablum is 8 times richer than spinach in iron. It must be remembered, too, that even when such vegetables as spinach are included in the ulcer diet, their iron content is reduced by sieving. Peterson and Elvehjem found, for instance, that orange juice and tomato juice contain only one-third as much iron as the whole fruit.²

Rich in Vitamin B

The high vitamin B content of Pablum assumes new importance in light of recent laboratory studies showing that avitaminosis B predisposes to certain gastro-intestinal disorders. Apropos of this, Cowgill says, "Gastric ulcer is another disorder which can conceivably be related to vitamin B deficiency. Insofar as the treatment of this condition usually involves a marked restriction of diet the occurrence of at least a moderate shortage of this vitamin is by no means unlikely. Obviously the length of the period of dietary restriction is an important determining factor. Dalldorf and Kellogg (1931) observed in rats subsisting on carefully controlled diets that the incidence of gastric ulcer was greatly increased in vitamin B deficiency. Observations of this type merit serious consideration."³ Sure and Thatcher (1933) produced ulcers in rats, similar to those in human gastric ulcer, as a result of specific vitamin B deficiency.⁴ Clinical observations by Dickson,⁵ Elsom,⁶ Larimore,⁷ and Mackie⁸ lead them to believe that diets low in vitamin B may be conducive to gastro-intestinal disorders, including ulcerative colitis.

Requiring no further cooking, Pablum is especially valuable during the healing stage of ulcer when the patient is back at work but still requires frequent meals. Pablum can be prepared quickly and conveniently at the office or shop simply by adding milk or cream and salt and sugar to taste. Pablum has the added advantage that it can be prepared in many varied ways—in muffins, mush, puddings, junket, etc. Further, Pablum is so thoroughly cooked that its cereal-starch has been shown to be more quickly digested *in vitro* than that of farina, oatmeal, cornmeal, or whole wheat cooked four hours in a double boiler (Ross and Burrill).

Pablum consists of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa, yeast, beef bone, iron salt and sodium chloride.

1-8 Bibliography on request.

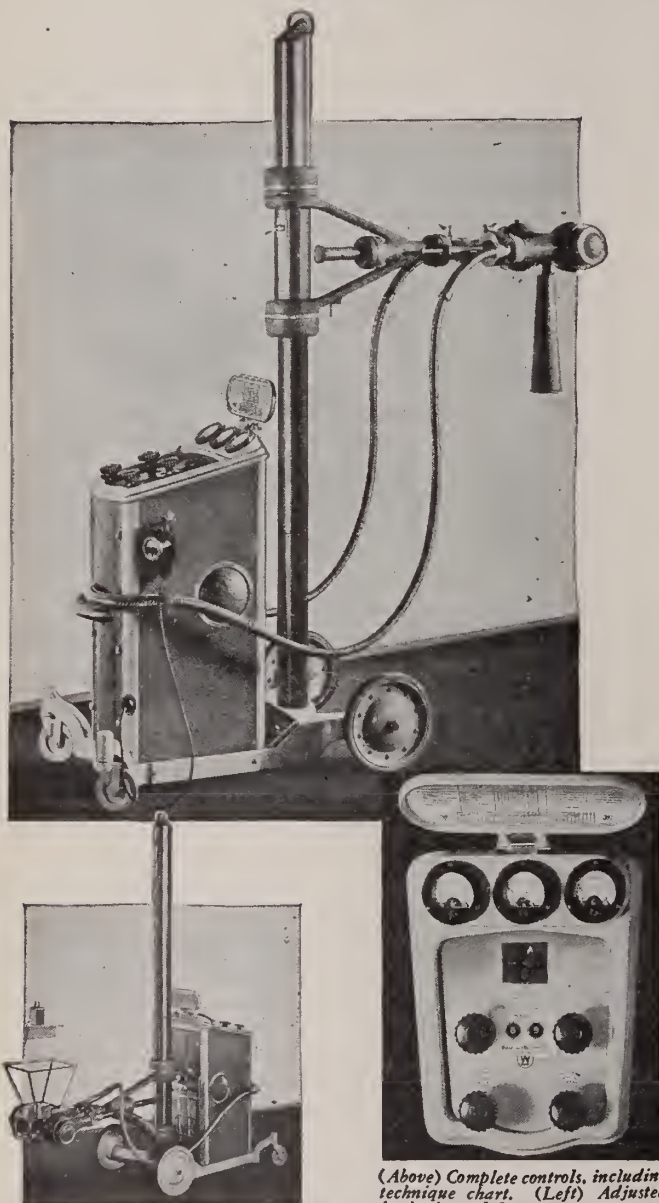
MEAD JOHNSON & COMPANY, Evansville, Indiana, U. S. A.

Please enclose professional card when requesting samples of Mead Johnson products to cooperate in preventing their reaching unauthorized persons

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Everything that could be done
has been done to make this
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EDITORIALS



DR. BOLIVAR SMITH

When the name, Dr. Bolivar Smith, is called in this section attention is immediate and a wave of admiration, respect, and reverence spreads over the face of the hearer. Five years ago he passed away at the age of seventy-seven. He was a native of Georgia, received his medical education at Louisville, Kentucky. He practiced for a short while in Tennessee, Pulaski, and then came to Prentiss County. For more than forty years he was faithfully on the job out at Burton. A number of young doctors "started off" in the practice under him. He was never married, but he was like a father to every one. He lived with his mother as the faithful son for a long while and then with his nephew, Clinton Smith. He was really and truly a family physician. He lived, walked and talked and worked with his people. Day in and day out he was ever ready to serve. He rejoiced with those who rejoiced and he shed a tear with those in trouble. He was well informed in medicine. His judgment was good. He was full of wisdom. He was ever ready to call for consultation when he was in doubt. His patient came first with him. He was the essence of medical ethics. No member of the medical profession could ever say Dr. Bolivar Smith did not treat him right. If any dispute came up in any way all were willing to leave it to Dr. Bolivar. And yet with his outstanding diplomacy, he had deep convictions and he stood firmly by them. For many years he was one of the best posted men in this section of the state on general information. He was a great reader. In the deep of the night you might pass and see his light in his room set apart and sacred now, we think, and see his big table, medical magazines and papers spread around. It was a joy and an inspiration to sit by and converse with him and drink of his knowledge and his wisdom, to feel the warmth of his heart beat sincere and true to the interest of his fellow man as a physician and as a citizen.

In the later years of his practice faithful "Dolly," his little gray pony, carried him over the hills and hollows by day and by night through sunshine and through rain, for 18 years. Near the last she was relieved of the longer trips by the automobile. Dr. Smith loved the fox chase to his last day. He kept his hounds and he enjoyed the hunt with his friends. The lovers of the chase came miles and miles to hunt

with him, to enjoy the chase and to enjoy him. He liked his politics too, and he was known by every state-wide office seeker, if he were informed as to the influential men. Not only did they want his voting power, but they sought his advice and his counsel.

But Dr. Smith is no more. He did not push people for pay, when they were in trouble he was always there ready. When they called he went. He always had a comfortable living. But with his going went his few thousand in a closed bank. He had quite a bit of land, but it too was involved to save other property and now there is no fund left to mark his last resting place. Dr. Smith loved his masonry and the lodges are interested in placing a marker where the body of this noble servant lies. We are sure that every person in the Burton community will want to have a part in this. Surely love and gratitude will compel them to. Every member of the medical profession in this section will want to have a part in this. Dr. L. L. McDougal, Sr., is taking the lead in raising these funds. It is a noble piece of work. If you want a part in it leave your contribution with him, or at The Independent office where you will be given a receipt for it.—The Booneville Independent.

The Distribution of Charity Funds for the Indigent Sick.

This has been a subject for study for the Mississippi State Medical Association for several years and for the state hospital association as well. Mississippi is supporting five state hospitals. There are only three other state owned hospitals in the United States. More than fifty percent of the patients admitted to these five state supported hospitals come from the county in which the hospital is located. At one time this system was very good, when we had only a dozen or so surgeons in the state. But now you can get a first class operation in almost any small town while you wait to get a tire fixed. So the system is as out of date as an ox cart. The distribution is unfair, and it is not at all economical. The hospitals have been used largely as political footballs by all the governors. The machine age is demanding that we carry modern medicine out to the commercial firing lines at a reasonable cost. The small hospital is the answer to better medical service for the small town and rural community. Individuals in the medical profession, stock companies, churches and counties have constructed small hospitals. Every county in state, except one, either has a hospital or adjoins a county that has one or two. We are really quite well supplied with hospitals and even the larger ones can ill afford to carry the burden that charity heaps upon them. For many of them four or five thousand dollars makes the difference between life and death. The charity patient can not travel a long distance to a hospital, does not have the money. Time is an important element in acute surgical disease. Dr. Time is the most successful surgeon who has ever operated for acute appendicitis. This disease continues to take the life of several thousand each year in the United States. The truck, the airplane, the automobile, and the one million "trailer" population of our country are making the small hospital more imperative.

The farmer out at the cross roads and down by the old mill deserves as much consideration as any one else if he is sick and can not pay. He deserves

to have this treatment near home where his loved ones may be with him. He does not have the means to travel a long distance. It is not economical for him to do so. Medical service out to the forgotten man is an important social and economical problem.

The only fair and economical way to distribute our funds for the indigent sick, is on a per capita basis. No legislator who is fair and honest can object to this. So let us distribute our charity funds to each county according to its population. Let the patient go to what ever hospital he wants to and let the bill be paid on an actual cost basis. This plan will give more medical service for less money. It will reach more people. It will help the small hospital to live and to serve the big forgotten middle class.

We should then have one central hospital, at Jackson, our state capitol. It should be a first class hospital, constructed and maintained by the state, the city of Jackson, and the county of Hinds and adjoining counties, perhaps. It should be a clearing house for all the state to a certain degree. It should be well equipped, have a modern x-ray and have radium. The other four state hospitals should be allowed to share in the per capita distribution and if the towns and counties in which they are located, the hospitals and doctors, want to keep them and give them added financial support, then let them do so and let the town and county or the medical profession select the superintendent. It seems that we are soon to lose our medical department at Ole Miss which has served so well. To help to compensate for this, we should have a rotating internship given at the state charity hospital at Jackson, the Mississippi State Hospital, and the Sanatorium. These three hospitals should in reality all be under the state board of health. Let us change our system, put aside politics and selfishness and go forward.

In the passing of Richard C. Bunting, of Memphis, the Mid-South Post Graduate Medical Assembly lost its right arm; organized medicine in the South an active and influential friend; neurology an able and popular consultant; and Memphis a dynamic personality and a progressive citizen. Dr. Bunting was a student, he was a thinker; he was a man of vision and conviction. He was wedded to the Mid-South. He gave of his time freely in its interest. For it he had vision and he had the courage to execute. He believed that the best was not too good for the doctors of the Mid-South. The association owes him a great debt of gratitude. There is a feeling of insecurity in those who lost him as a consultant. The Mid-South will feel his loss, his devotion and his interest. The Mississippi Doctor deeply regrets his going. We offer our deepest sympathy to the bereaved family.

If you want to find out who needs medical care in this country write the justices of the peace out at the cross roads; better go see them and spend the night—not the mayors of the prosperous cities.

DR. SEALE HARRIS

Gastro-intestinal and Nutritional Diseases
Diagnostician
2234 Highland Avenue
Birmingham, Alabama

Dr. Garrison, President-Elect of the Mississippi State Medical Association, and councilor for the Southern, from Mississippi, is urging you to become a member and attend the Southern Medical Association in Saint Louis from Nov. 19-22 inclusive. You should heed his call. The Southern Medical is a fine association. It is our association. It gives a splendid program. To it you are always welcome. Dr. and Mrs. Dabney get out a splendid journal. Mr. Loran is a fine manager. He loves to give good service. To come in contact with him is to make you a better man. At the Southern you will nearly always meet Dr. J. A. Majors, representing the W. B. Saunders Company. Dr. Majors is a native of Mississippi, Prentiss County, Booneville. One of his hand shakes is worth the trip up there. Saint Louis is accessible. You will enjoy your stay in this city. Let us go to the Southern.

Dr. Conley H. Sanford has been appointed by Dr. H. King Wade, of Hot Springs, President of the Mid-South Post Graduate Medical Assembly, as chairman of the program committee to take the place of the late Dr. R. C. Bunting. Dr. R. O. Rychener has also been added to the committee. These are splendid selections and we are sure that the programs will go right along. The Mid-South has had a wonderful growth. It is one of the very best associations now in the United States.

The covered wagon age is now history and the "trailer Era" has been ushered in. It is said that about a million of our people are living on wheels—just "trailer" about, going to Florida, here and yonder, with not the hot foot, but the rolling mania. Our rolling population is rapidly becoming a problem both socially and economically, a study for church, state and public health.

Dr. Luther McDougal Jr., who is interneing in Rhode Island was recently married to Miss Dorothy Atkinson, of Providence. Dr. McDougal is the son of Dr. and Mrs. L. L. McDougal Sr., of Booneville. He is a graduate of Vanderbilt. He is specializing in the diseases of children, and we understand he expects to return to Mississippi to practice. Mississippi will welcome him and his charming and cultured wife.

The American Medical Association is safeguarding the people in many ways, doing a great work. It would do well to appoint a commission to study the effect of alcohol on the human organism and the relation of alcohol to accidental death and to poverty.

The next meeting of the North East Mississippi 13 Counties Medical Society will be held in Tupelo. Dr. Stacy says it is going to be a good one. Tupelo knows how to treat doctors. We will have a big attendance.

Mr. Smith McDougal, the youngest son of Dr. and Mrs. L. L. McDougal Sr., is now a medical student in Vanderbilt. Our cordial good wishes go with him.

Just a little authority makes self righteous medical Pharisees out of some human bipeds—but the Lord has spoken and will reward.

AN INTERESTING TREND

The Tennessee State Medical Association a few days ago sponsored an announcement that it would hereafter encourage the practice of preventive medicine by its members and foster closer cooperation with local boards of health. While the move is now apparently only in its inception and therefore hardly subject to any very detailed comment, the trend is actually interesting and potentially most valuable. Without prejudice it may be said that the relationships between public health movements and the medical profession in general have at times been marked by a great deal more heat than light. Nor is that a state of affairs characteristic of Tennessee alone. It has really been an inevitable concomitant of the comparatively rapid development of public health services in the nation as a whole.

To the informed layman, mindful of the exceedingly fine and many times unrecompensed service of the private practitioner in allaying suffering and combating disease, and at the same time aware of the constructive attitude and accomplishment of well-ordered public health departments, it has seemed all along preferable and possible that the two elements should cooperate cordially. There is no reason to doubt the continued need for strictly curative medicine and no question of the entire sanity and desirability of preventive measures. There is enough work to keep everybody busy for a long, long time to come, and the masses of the people are chiefly concerned with having the job done as efficiently and economically as possible. From the very nature of the case it is all but impossible for a physician to practice his profession along other than semiphilanthropic lines, which is no news to any doctor.

Many physicians in many sections of the United States have been vocally apprehensive of state medicine, so-called, but if the members of the Tennessee State Medical Association succeed in translating their present theory into practice, there will be small danger of it here for the simple reason that no cause for it will be present. It seems a move potentially most useful.—The Commercial Appeal, September 11, 1935, Memphis, Tenn.

Every practising physician should belong to his local and to his state society. He owes this much to organized medicine.

If at all possible, you should attend the Southern Medical Association in Saint Louis, Nov. 19-24.

Medical science is medical science, and no one man and no one organization has a corner on it.

As a rule, the big men in the medical profession do not drink whiskey.

Honest thinking is the mind's most health-giving food.

The Mid-South is lined up for a fine program in February.

Good obstetrics is a great measure for preventive surgery.

To The Medical Profession Of Mississippi

I am especially anxious for every member of the Mississippi State Medical Association to become a member of the Southern Medical Association. The majority of the members of the Mississippi State Medical Association are already members of the Southern Medical, I am glad to say, however, there are quite a number who are not.

This appeal is directed to those who are not members, urging them to become members, and indirectly to the members of the Southern Medical Association urging them to go out after the Brother who is not a member of the Southern Medical Association and impress upon him the importance of holding membership in this Association.

The price of membership is \$4.00 and this includes the Southern Medical Journal for one year. The Medical Journal as well as the Southern Medical Association represents the best in the Medical Profession anywhere and more especially in the South. It is the Association of and for the Doctors of the Southern States. The Southern Medical Journal is second to none in the country for any doctor who wants to keep posted on any branch of the practice of medicine.

The next meeting of the Southern Medical Association is to be held in St. Louis, Missouri, November 19-22. This will be one of the finest meetings in the history of the Association. If you are a member of your County and State Associations, the only thing necessary will be to send \$4.00 to the Secretary of the Southern Medical Association, Empire Building, Birmingham, Alabama. Just tell him that you are a member of your County and also a member of your State Association. Give the name of your county, and he will immediately send you a receipt and begin sending you the Journal.

I can not emphasize too strongly the importance of your holding membership in the Southern Medical Association. Let me again urge that every physician who is not already a member send in your dues immediately. Meet me in St. Louis, November 19-22, and witness one of the greatest medical meetings that has ever been your privilege to attend.

I am sincerely and fraternally yours,

HARVEY F. GARRISON,

Councilor From Mississippi
Southern Medical Association

Hospital Staff Meeting

The regular monthly staff meeting of the Northeast Mississippi Hospital met in the dining room of the hospital on Monday night, November 4 at 7:00 p. m. The following members were present: Doctors W. H. Anderson, R. B. Caldwell, R. H. Christian, R. B. Cunningham, W. V. Davis, A. G. LeRoy, L. L. McDougal, W. W. Strange and H. B. Sutherland.

The program was opened by Dr. W. H. Anderson, who gave a brief biography of Dr. Rudolph Matas, who was proclaimed as dean of the Medical world. The discussion of the life of this great character is very interesting and almost every one present took part in the discussion. Dr. L. L. McDougal gave an interesting and instructive paper on sepsis. The

topic was discussed liberally by several of those present.

Following the program officers were elected for the coming year. They are as follows: President, Dr. R. B. Caldwell; Vice President, Dr. W. W. Strange; Secretary-Treasurer, Dr. R. B. Cunningham; Reporter, Dr. A. G. LeRoy.

Book Reviews

Have you purchased your new "DAILY LOG" for 1936? The complete, handsomely bound and charted one which we know as Dr. Colwell DAILY LOG, sold by the Colwell Publishing Co., of Champaign, Ill., is as neat and compact as you will find on the market. Every patient which consults or receives treatment in your office is entered on the date prescribed, with all the details of services rendered, charges, etc. At the close of the year your DAILY LOG is complete and ready for quick reference. It may be placed along side of your ledgers of preceeding years for permanent files; yet it requires no more space than a handy library volume. Price: \$6.00.

For the catalog system, Colwell Publishing Company also offers ledger cards for the individual record of each patient, size 4x6 inches, 500 cards at \$4.25; 1000 cards at \$7.50.

Modern Clinical Syphilology, Second Edition by John H. Stokes, M.D. This book contains a full account of modern Syphilology with a review of the world literature on this great subject. Fifteen of the original thirty-three chapters of the first edition have been completely rewritten. There is a new chapter on relapse and progression. This edition, with its 1400 page volume and 973 illustrations, is doubtless the most complete work one can find on syphilology and yet with its completeness and detail Dr. Stokes presents a very interesting and to a great extent original work. The book is very adaptable as a text book and should interest the student as well as the practitioner. Price \$12.00. W. B. Saunders & Co., Philadelphia and London, 1934.

A very recent book that reads with as fascile charm as the title itself is "SURGERY, QUEEN OF THE ARTS," written by Dr. William D. Haggard, who has distinguished himself as surgeon, diplomat and litterateur, while becoming an archon in his own profession. In this little book is this gem of learning and masterful prose from which the book gathers its title, and there follow other papers and addresses superbly written, including diagnoses and considerations of goiter, duodenal ulcer and gallstones; sarcomas; appendicitis; tumors and other surgical conditions that the writer has encountered in many years of varied and continuous experience as a great surgeon.

He concludes with a new ideal for the hospitals of the country which is worthy of consideration.

Published by W. B. Saunders Company, Philadelphia, Pa. Price \$5.50.

WANTED POSITION: X-ray and laboratory technician. Ten years' experience in doctor's office as technician, stenographer and bookkeeper. References.

P. O. Box 681, Yazoo City, Mississippi.

Compression Fractures of the Vertebrae Without Cord Injury

WILLIS C. CAMPBELL, M.D.
Memphis, Tenn.

The frequency of fractures of the vertebrae has increased directly proportional to the increase of industry and speed of automobiles. Similarly, methods of treatment have improved, as a result of which poor functional results in this injury are becoming less frequent. The impression prevails among many of the medical profession that neurological symptoms are paramount in the majority of cases of fractured vertebrae. Twenty-five years ago I published a paper in the old Interstate Medical Journal of St. Louis (now extinct) reporting six cases of fractured vertebrae without neurologic symptoms and emphasized the fact that the majority of fractured vertebrae do not have symptoms of spinal cord injury and require as exact technique of treatment as fractures elsewhere.

Two forces enter into the production of a compression fracture: either vertical stress that occurs in a fall from a height, or extreme flexion or hyperflexion that may occur with the impact of automobiles traveling at a high rate of speed; or there may be a combination of the two forces. The normal mobility of the spine is sufficient to absorb ordinary vertical force by exaggeration of the dorsal kyphosis and lumbar lordosis. This excessive force is concentrated

at the dorso-lumbar junction (eleventh and twelfth dorsal, first and second lumbar), and, to a much less degree at the fifth and sixth cervical and lumbo-sacral joints. Normally the lumbar spine cannot be flexed beyond a straight line. Thus in hyperflexion the dorsal and lumbar regions of the spine may be compared to an old-fashioned nut cracker, with the dorsal spine as one lever, the lumbar spine as the other and the fulcrum as the dorso-lumbar junction. Similarly, in extreme hyperflexion this jack-knifing or "nut-cracker action" is true to a less degree if only the dorsal kyphosis is considered, with the apex of the dorsal curve as the fulcrum. The strong, resistant posterior ligaments and the construction of the posterior articulations of the spine enhance this action. This possibly explains the occasional multiplicity of fractures of the spine at different levels. Another factor to be considered is the relatively thick cortical bone of the neural arch and posterior articulation compared to the thin cortical envelope which surrounds cancellous bone of the body of the vertebra.

This explanation of the mechanics of compression fractures is borne out clinically by the relative frequency of fractures of the various vertebrae, namely the first lumbar, twelfth dorsal and second lumbar, respectively. Seventy-five to eighty per cent of compression fractures occur in the dorso-lumbar region.

As fractures of the vertebrae are frequently associated with obvious fractures and injuries that attract one's attention immediately, a careful examination of the spine may be omitted. Frequently the symptoms are not severe and are passed by with the diagnosis of "back sprain." Physical examination in

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such cases is not sufficient. Following severe trauma any symptoms referable to the spine amply justify a complete roentgenographic examination, which consists of both views of the entire spine. Several days may elapse following the accident before the

a lumbar vertebra. Usually the patient complains of pain or backache over the involved area which is exaggerated by flexion or lateral movements of the spine. Muscular rigidity is present. On physical examination a knuckling of a vertebra or marked



Fig. 1. Roger's Frame attached to bed. The frame is shown in the horizontal position with the ratchet by which the central portion may be elevated.



Fig. 2. The position of the patient when the frame has been raised to almost the limit of hyperextension.



Fig. 3. Fracture of the twelfth dorsal vertebra.

Fig. 4. Same as figure 3 after correction.

patient complains severely with backache or pain. Not infrequently the symptoms are referred to the pelvis or lower extremities when the pathology is in

kyphosis may or may not be present. If the spinous process is fractured, a local hematoma is observed. Deep pressure elicits marked tenderness

Unrecognized and untreated cases result in rigid, painful backs with partial or total disability for months. A deformity results as the dorsal kyphosis

until the injured area is fused naturally or by an operative procedure.

When the compression fracture is associated with



Fig. 5. Fracture dislocation of the first lumbar vertebra.

Fig. 6. Same as figure 5 after correction.



Fig. 7. Fracture of the twelfth dorsal vertebra.

Fig. 8. Same as figure 7 after correction.

and the lumbar lordosis compensate for the compressed vertebra. Pain results from the ligamentous and muscular strain and may persist without relief

spinal cord injury with partial or complete physiologic block (loss of sensory and motor impulses) of the adjacent neurologic segment, the diagnosis is obvious

and the immediate emergency may fall within the realm of both orthopedics and neuro-surgery. The indications and contra-indications of laminectomy are not within the scope of this paper.

As many of these injuries occur on the road and

sition only adds to his injury and discomfort. The correct method of immobilizing a fractured spine for transportation is to gently roll the patient face downward on a Bradford frame, stretcher or an ordinary plank, with a blanket under the head and

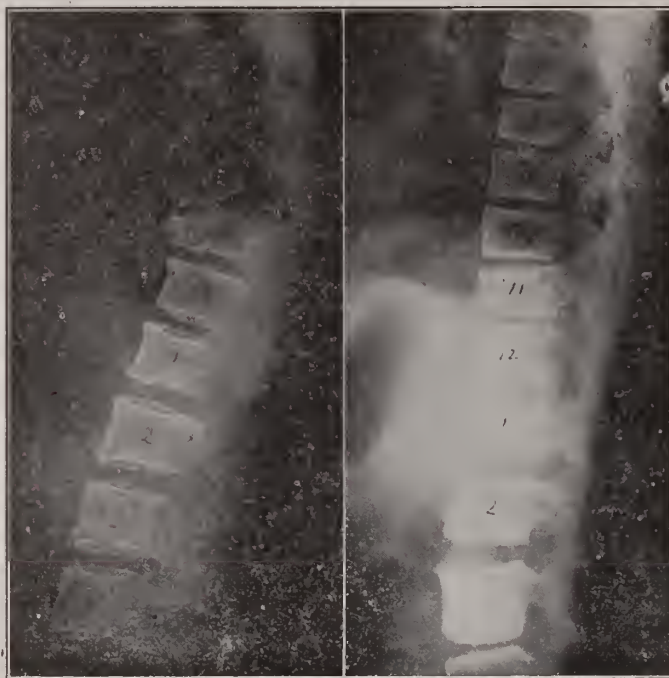


Fig. 9. Fracture of the eleventh dorsal vertebra.

Fig. 10. Same as figure 9 after correction.



Fig. 11. Fracture of the first lumbar vertebra.

Fig. 12. Same as figure 11 after correction.

ordinary hospital facilities are not sufficient for their proper treatment, transportation warrants discussion. Clumsy and unintelligent handling of these cases invites irreparable and disastrous spinal cord injuries. Picking up a patient in the sitting or jack-knife po-

chest to maintain the spine in hyperextension. This position relieves discomfort and pain to a great degree and lessens the danger of spinal cord injury.

The prerequisites for ultimate good functional results in compression fractures of the vertebrae con-

sists of an early reduction of the fracture to as near perfect anatomical contour and alignment as possible, immobilization and maintenance of the spine in hyperextension and the proper after-care. Davis in 1930 first emphasized and described a method of reduction of compression fractures by hyperextension of the spine. Although varied in detail since then, the principles remain unchanged. The same lever and fulcrum action that produces the fracture in extreme flexion, reduces the fracture when reversed with the spine hyperextended, due to the strong anterior ligaments that connect superior and inferior intervertebral discs.

Any of the following methods of producing hyperextension of the spine with reduction of the fracture have proven to be satisfactory, but many require special hospital equipment and a trained personnel. Rogers in 1930 introduced a curved, flexible modification of the Bradford frame that was attached to a bed; gradual hyperextension of the spine could be obtained by means of a ratchet in the center. Five to ten days were required to obtain sufficient hyperextension, as it was considered dangerous to hyperextend the spine rapidly for fear of spinal cord injury. This has since been refuted, as it is common in ordinary compression fractures to obtain complete hyperextension in from ten to twenty minutes. During this time reflexes and sensation, both objective and subjective, are carefully observed at frequent intervals. No neurologic damage has been noted following rapid reduction.

Davis, Whitman, Jones, Dunlap and others have devised various apparatus and procedures for obtaining hyperextensions of the spine. Our present apparatus consists of an ordinary automobile jack with a detachable platform six inches long by four inches

wide. This was introduced by O'Donoghue. The jack is placed adjacent to the center post of a fracture table with the platform well padded with heavy felt; the patient is placed on this platform with the apex of the kyphosis immediately over the center of the jack. The feet are tied to the foot posts and the shoulders are supported by the upper portion of the fracture table. Gradually the jack is raised until the desired amount of hyperextension is obtained. A lateral roentgenogram is made at this time to check the reduction. Frequently the anatomical contour has been restored so completely that it is difficult to determine from this plate which is the involved vertebra. A double spica cast is applied from well above the nipple line anteriorly to the knees. The platform is removed through a window cut in the plaster, the felt being left intact. This procedure is usually carried out with the aid of narcotics only. Rarely gas anesthesia is used as an adjunct if the patient is uncooperative.

Due to autonomic nervous system imbalance and the taut abdominal muscles, severe gastro-intestinal symptoms occasionally follow, but may be avoided by the liberal use of intravenous glucose in saline, eserine, pituitrin, and the colon tube. This is particularly true if there is an associated spinal cord injury. Distention should be promptly reduced to prevent any respiratory embarrassment.

The double spica cast is removed in four weeks and a lighter plaster jacket applied with the spine still hyperextended. This allows the patient to be ambulatory and shortens convalescence. Eight weeks after injury a long Taylor spine brace is applied, which is worn continuously at first and then removed gradually. The spinal brace is discarded after three to six months.

Untreated cases may still be partially corrected

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after three to four weeks have elapsed since the injury, but the degree of restoration of anatomical contour and the functional result is not so satisfactory. Usually there is some deformity with resultant root pains, backache and rigidity, which may later require spinal fusion to obtain relief.

The hyperextension treatment of compression fractures of the vertebrae has materially improved the functional results and lessened the long convalescent period or the more or less permanent disability that once was anticipated.

The Importance of X-Ray Examination in the Diagnosis of Pulmonary Tuberculosis

J. N. ANE, M.D.

Division of Radiology, Department of Medicine,
Tulane University
New Orleans, Louisiana

I wish to thank the President and members of the South Mississippi Medical Society for the honor I have received in being asked to address this meeting. The evaluation of the methods employed in the diagnosis of pulmonary tuberculosis has always been of considerable interest to the medical profession. The history, the methods of physical examination, the temperature chart, the sputum examination, the leukocytic count, the tuberculin reaction and the roentgen examination are all essential in the search for pulmonary tuberculosis. However, it is of the utmost importance that the physician correctly evaluate these methods of diagnosis in each individual case, so that an accurate knowledge of the presence and the state of the disease may be obtained, and each patient thereby receive the greatest benefit possible from the form of therapy selected. The importance of x-ray examination while the infection is still in the early stage can not be overestimated as is shown by the great increase in the number of cases of incipient tuberculosis that have been recognized.

When roentgenology was first employed as an aid in the diagnosis of pulmonary tuberculosis the significance of the findings was at first not correctly evaluated. Soon after Roentgen's discovery the x-ray was used for the study of fractures and dislocations. In many of these cases the roentgen evidence of the existence or the absence of a fracture was either definitely positive or negative. Very little experience was required to accurately interpret the presence of a complete fracture often with displacement. The interpretation of the roentgen findings in pulmonary tuberculosis proved much more difficult. This important knowledge could only be obtained by correlation of the x-ray evidence with the physical signs and post-mortem examination, and by careful study by means of serial roentgenograms of the various manifestations and subsequent course of the disease. With the increase knowledge obtained by the advent of the x-ray the old idea that pulmonary tuberculosis begins at the apex and the later opinion that it arises at the hilum was abandoned. Likewise, for the sake of accuracy, the roentgenogram replaced physical signs as the basis for classification. Birkelo (1) has stated, "I have often been impressed with the sim-

ilarity of a well-made roentgenogram of the chest and a cross section of the lung at the post-mortem table. Nearly everything the pathologist can produce in the line of disease or abnormality has a definite density representation in the film. It is there, whether we see it or not. In some aspects, a roentgenogram surpasses the gross post-mortem examination, in the fact that the air chambers and bronchioles are shown during their physiologic function and the air-filled spaces produce contrast for the pathologic conditions which exist, whereas at the post-mortem, all issues of the lung are more or less sunken and collapsed and the process of decay already at work."

McPhedran (2) became interested in the reasons why the diagnosis of pulmonary tuberculosis was made so late in so many cases. He came to the following conclusions: (1) The patient waits until the condition has advanced considerably before asking for advice; (2) The physician does not use all the diagnostic measures in the study of his chest cases. Other cases occur in which the patient has been thoroughly examined and the roentgenologist has reported a tuberculous lesion. The physician, however, because of the absence of symptoms and physical signs considers the anatomical lesion shown on the x-ray film of little significance. There are also instances with negative history and physical signs, in which because of lack of experience and appreciation of the roentgen manifestations of an early lesion, and the failure to employ serial roentgenograms the patient is allowed to drift into a moderately-advanced or even far-advanced state.

Opie (3) has defined "latent tuberculosis" as pulmonary tuberculosis which is unaccompanied by symptoms and signs and which is recognized by the tuberculin reaction, x-ray examination or at the autopsy table. In regard to the minimal size of a lesion which will be seen on an x-ray film, Wessler and Jaches (4) have stated that a lesion situated near the surface of the lung must be at least 4 mm. in diameter to be visualized on a roentgenogram. However, McPhedran (5) believes that focus from 1.5 to 2 mm. in diameter can be clearly made out. While it is obvious that a solitary tubercle could not be visualized on the x-ray film, it is believed that in the presence of symptoms due to pulmonary tuberculosis, the roentgen examination should reveal evidence of the disease in practically all cases. Webb (6) states, "When rales can be heard in a lung or as a rule when hemoptysis or pleurisy or cough has occurred the lesion of pulmonary tuberculosis are advanced." In this connection, the findings of Sampson and Brown (7) of the Trudeau

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Sanatorium are of interest. In a series of 280 cases diagnosed as minimal pulmonary tuberculosis bacilli were found in the sputa in 35 per cent and definite rales in but 27 per cent; hemoptysis was present in 26 per cent while the pleuritis effusion occurred in 12 per cent. On the other hand, 277 of the 280 or 99 per cent presented definite roentgenographic evidence of pulmonary tuberculosis. In a further attempt to correlate physical signs and x-ray evidence, 1,004 consecutive cases were studied. There was none with definite physical signs and a negative roentgenogram. In 211, the extent was equal by both methods. In 361, the roentgenogram revealed more extensive disease than was inferred from the physical signs. In 396 the roentgenogram showed definite evidence of pulmonary tuberculosis, while the physical signs were practically normal. It is of interest also that in a series of 392 patients with cavity formation only 15 per cent had physical signs suggestive of this condition.

The question of the activity of a tuberculous process is of considerable importance in the study of pulmonary tuberculosis. Activity has been defined as disease which is in a state of actual or potential increase or decrease in extent or intensity, or in both. Lawrason Brown has found it extremely difficult to determine activity from physical signs alone. While it is possible for one who has had considerable experience in the roentgenology of pulmonary tuberculosis to obtain some idea in some cases regarding activity it is believed that serial films remains the most accurate method in estimating activity. No patient should be considered inactive, whose serial films show any

evidence of change, whether the change be an increase or decrease in extent or intensity.

The temperature chart has long been considered of considerable importance in the study of activity in tuberculosis. While it is believed that today, the x-ray examination is undoubtedly, the most accurate single method of determining the progress and the retrogression of the disease, the temperature chart correlated with serial x-ray findings still occupies an important place in the study of activity. Maurice Myers (8) using Wingfield's Classification has contributed important observations in the correlation of the temperature chart and the x-ray. Wingfield's Classification which does not include the primary infection of childhood, divides the lung lesions of pulmonary tuberculosis into the following: (1) The "secondary" lesion consisting of a local allergic reaction due to the deposit of bacilli; (2) the "intermediate" lesion, corresponding to what is known as the active fibrocaseous disease; (3) the "tertiary" lesion, which corresponds to the healed and non-progressive intermediate lesion.

It was noted that the small secondary lesion may produce no symptoms. The medium-sized secondary lesion results in a disturbance of temperature somewhat similar to a mild attack of influenza, which returns to normal in a few days and remains normal for many weeks or months. This is believed to be the reason why so many patients suffering from pulmonary tuberculosis give a history of an attack of influenza as the starting point of their disease. The large secondary lesion has an onset somewhat more marked than the medium-sized lesion and resembles

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an attack of lobar pneumonia. However, the temperature returns to normal gradually by lysis after a period of 14 days. The presence of tubercle bacilli in the sputum and the absence of the crisis distinguishes this form from lobar pneumonia.

It was observed in the case of the intermediate lesion that the disease may be spreading and still give no indication on the temperature chart for the first few weeks. It is believed that temperature and clinical symptoms are noted in this condition only with the erosion of a patent bronchus and the onset of secondary infection. During the period that the patient is pyrexial as a result of a spreading intermediate lesion infected with pyogenic organisms, it is still possible for a new secondary lesion to appear in the lungs.

While the tertiary lesion theoretically should not be associated with temperature, many patients with static lesions who appear to be in good general health run a constant mild fever. This increased temperature is believed due to the secondary infection in the small cavities and to alteration in the temperature control which has occurred as a result of prolonged pyrexia and toxemia.

The minimal lesions of pulmonary tuberculosis may be divided into the exudative and productive types (9). The exudative lesion may terminate as follows: (1) It may completely resolve and leave no trace on the roentgenogram; (2) It may resolve and leave only a few fibrotic scars; (3) It may undergo caseation and cavity formation. The productive lesions are noted as: (1) fibrotic strands with small nodules or as (2) fibrosis with numerous small cavitations. It is evident that classification can not be obtained from a single film in all cases. It is only by serial films that the course of the condition may be followed.

Any evaluation of the use of the x-ray in the diagnosis of pulmonary tuberculosis would not be complete without a word of warning in regard to two practices which have been employed in an effort to lessen the expense of the x-ray examination. Reference is made to the use of sensitive paper and to the attempt to diagnose pulmonary tuberculosis by means of the fluoroscope. Menville (10) has condemned these practices as uncertain and dangerous to the patient, and in the case of the fluoroscope, dangerous to the physician making the examination. The x-ray film remains as the only method of x-ray examination which will give the desired information in the diagnosis of pulmonary tuberculosis.

CONCLUSIONS

Tuberculous lesions in the lungs can be recognized at their earliest stages in the roentgenogram, often long before physical signs are present and frequently in advance of recognizable symptoms.

The minimal lesion is the most important tuberculous lesion of all because it has a definite promise of a complete cure.

Serial roentgenograms are probably the most accurate means of determining activity.

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Pediatric Therapeutics⁽¹⁾

WILBURT C. DAVIDSON (2)
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As shown elsewhere (3, 4), from the point of view of reducing our present infant mortality of 240,000 deaths annually, the most important of the 307 pediatric diseases are the thirty-seven which can be prevented and the sixty-three which are amenable to adequate therapy. Seventy-seven per cent of the pediatric deaths are due to these one hundred diseases, of which the preventable conditions discussed elsewhere (4) are the most serious. As therapy in the sixty-three curable conditions is almost specific, their accurate diagnosis should be stressed (5, 6), and the other 207 diseases from which patients, at present, usually recover or succumb regardless of therapy, should not be considered until all possibility of the presence of one of the curable conditions is eliminated. A complete discussion of the latter is impossible, as is also a description of the general non-specific measures which increase the patient's comfort and hasten his recovery (7), so fourteen (Table 1) have been selected as examples.

1. **Allergy (asthma, eczema, angioneurotic edema, hay fever, migraine, poison ivy, urticaria):** The acute symptoms may be relieved by subcutaneous injections of 0.2 to 0.4 cc. (min. iii to vi) 1:1,000 epinephrine hydrochloride, or 3 or 4 doses of 25 mgm. (gr. 3/8) capsules of ephedrine sulphate by mouth every 15 minutes. A throat spray of 1% aqueous ephedrine and a benzedrine inhaler not oftener than q.l.h. are useful. (Ephedrine or benzedrine should not be used late in the afternoon or at night as they cause sleeplessness.) An ice-collar, steam-tent and sometimes tracheotomy are necessary for marked throat and respiratory symptoms, and edema of the glottis. The skin symptoms may be alleviated by soothing lotions, tannic acid jelly, or wet dressings of 4% sodium bicarbonate (1 teaspoonful to ½ glass of water). Epinephrine injections also may be used. In **migraine**, sedatives may be necessary, and sometimes a ketogenic dietary regime is beneficial.

For permanent cure, discovery of the causative proteins (allergens) by history or skin tests, and the removal or avoidance of, or desensitization to them are essential. The oral administration of calcium chloride, lactate or gluconate, cod or halibut liver oil, viosterol, tomato juice and elimination diets are beneficial. The most likely causative substances first should be sought by a careful questioning of the patient or his mother, and then the patient tested: (a) through the skin by the scratch, intradermal, patch or passive transfer method, or (b) through the mucous membranes by the ophthalmic, nasal, oral, rectal or intestinal routes. The test material (obtained from manufacturers or made in a laboratory) usually should be diluted 1-10,000 to 1-100,000 for children, although therapeutic serum may be diluted 1-10. Desensitization may be accomplished by the massive (rapid), gradual or ingestion methods. The reactions or anaphylactic shock should be controlled by epinephrine or a tourniquet which always should be available during desensitization, or sensitivity tests. As an example of the **rapid** method, a child, who had eczema and who required a prophylactic dose of 1,500

units of tetanus antitoxin, had a slight redness around the intradermal injection of 0.1 cc. antitoxin (previously diluted 1:100 with sterile saline), and so was given the following amounts of tetanus antitoxin at twenty minute intervals: 0.1 cc. (diluted 1-10) intradermally, 0.1 cc. (diluted 1-10) subcutaneously, 0.5 cc. (diluted 1-10) subcutaneously, 1 cc. (diluted 1-10) subcutaneously, 0.1 cc. (undiluted) intradermally, 0.5 cc. (undiluted) subcutaneously, and the remainder of the antitoxin in 0.5 cc. doses (undiluted) intramuscularly at intervals of twenty minutes.* With other allergens, a somewhat similar procedure is carried out, but instead of repeating the injection every fifteen to thirty minutes, they are given once or twice daily until the desired dosage has been reached. The injections then are repeated at intervals of three to five days, for an indefinite period of time, dependent on the patient's needs, i.e. if a patient is to be desensitized to the point at which he can take 1 cc. of a 1:100 or 1:1,000 dilution of an allergen mixture, this level is reached by daily increasing injections, starting with 0.1 cc. intradermally of a 1:10,000 to 1:100,000 dilution. When he can take subcutaneously 1 cc. of 1:100 or 1:1,000 without a reaction, this last dose is given subcutaneously every five days. Frequently, this maintenance dose may be decreased to 0.5 cc., and the interval increased, according to the patient's general condition. The **slower** method of desensitization is similar, but the initial dilutions are very high (1:1,000,000 or 1:500,000 for children), and the injections are given with a tuberculin syringe hypodermically at two or three day intervals. Occasionally serum or other protein injection may cause local sloughing or Arthus' phenomenon. (5)

Some hypersensitive patients, in whom other reactions are negative, can be tested **intestinally** by giving them elimination diets, which do not contain the suspected substances (examples are shown in Table 2), and then adding the suspected proteins, one at a time at intervals of one week. Patients also may be desensitized by feeding them dilute foods. The food, to which the patient is sensitive, should be thoroughly

*Six to twelve days after serum treatment, serum disease usually causes an elevation of temperature and a skin rash lasting one to three days. The repeated application of four per cent sodium bicarbonate (1 teaspoonful to ½ glass of water) or of calamine lotion to the rash frequently will relieve the itching; epinephrine injections also may be used. The oral administration of calcium chloride, lactate or gluconate for three or four days before the serum disease is expected may avert it.

GILBERT J. LEVY, M.D.
Practice Limited to Diseases of Children
and Communicable Diseases.
20 S. Dunlap St.
Memphis, Tenn.

WM. MILTON ADAMS, M.D.
Practice Limited to Plastic and Reparative Surgery
Suite 410-414
Physicians and Surgeons Building
899 Madison Avenue
Memphis, Tenn.

mixed in the amount indicated below* with one quart of ordinary water, and one teaspoonful administered by mouth; the remainder should be discarded. The same dose of the same strength of dilution should be given once daily for four days, but the solution should be made freshly every day. Every fourth day, the amount of the water should be reduced in half, i.e. 1 pint, $\frac{1}{2}$ pint, etc. After the 35th day (59th for milk and 99th for egg), 1 teaspoonful of undiluted food may be given by mouth (using bread in the flour desensitization). The amounts then may be gradually increased (9). If the child has a reaction (nausea, increase in eczema, etc.) at any time during this course, the amount of the next dose should be reduced and the subsequent daily doses then gradually increased as before. Desensitization once established usually is permanent. Desensitization to other foods may be accomplished similarly, or by the use of elimination diets.

2. **Secondary anemia**, if severe or due to infections, should be treated by one or more blood transfusions but if not, the daily administration of 30 cc. (oz. 1) (divided into three doses) of a mixture containing 10 per cent iron and ammonium citrate and 0.05 per cent copper sulphate, flavored with 25 per cent aromatic elixir will restore the normal hemoglobin level within six weeks (10). A diet containing meat and green vegetables also is essential.

3. **Arthritis**. Rest in bed, orthopedic treatment

*Egg (beaten so that the yolk and white are well mixed) 2 drops; milk 1 teaspoonful; flour (wheat) $\frac{1}{2}$ teaspoonful; orange juice 2 tablespoonsful; tomato juice 1 tablespoonful.

and physiotherapy are essential. A search for and removal of foci of infection, desensitization to infecting organisms (see allergy above), and a high vitamin diet are advisable. If the epiphysis is involved, rest in a splint or cast is desirable, and incision and drainage may be necessary. If the Wassermann test is positive (epiphysitis), antisyphilitic therapy is required. In addition, hyperthermia treatment seems promising, i.e. raising the patient's body temperature by placing him in a Warren radiant energy cabinet, a wooden box, heated by carbon filament lamps, which fits over a bed and encloses the reclining patient completely, except for his head. Constant attendance and care are necessary. The patient should drink maximal amounts of warm water, or preferably saline, and his rectal temperature and blood pressure should be recorded every ten minutes. If the blood pressure falls markedly, if vomiting is severe or if convulsions occur, the treatment should be stopped immediately as deaths have followed fever therapy. If the patient has gonococcus arthritis, cure is almost invariable after two treatments for six hours each at 41.5°C (106.7°F) (11). The intravenous injection of typhoid vaccine, Cecil's *Streptococcus* vaccine, or 2 cc. of a sterile ampule containing 10 mgms. of protein free colloidal sulphur or the intramuscular injection of 20 mgms. of colloidal sulphur in oil, daily for ten days are said to be beneficial in chronic arthritis (12).

4. **Chorea**. The patient should be kept in bed in an isolated room at home, in a hospital, or preferably in a convalescent home, for at least one month after all symptoms have disappeared, should see as few people as possible and should be encouraged to eat

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to capacity. Usually, the more quickly the weight rises the more rapid is the recovery. Sedatives and salicylates are useful. (Occasionally salicylate poisoning may occur in sensitive individuals). Phenylethylhydantoin (niranol) is not recommended. Typhoid vaccine pyrexia probably is the best treatment, i.e. the daily intravenous injection for six to eight days of stock typhoid-paratyphoid vaccine, starting with 200,000 bacilli (usually 0.1 cc.) and increasing the dose if necessary, so that febrile response of 40°C. (104° F.) on three successive days is obtained (13). Warren's "hot box" therapy (see arthritis above) apparently is not so beneficial as is typhoid vaccine pyrexia.

5. Diabetes Mellitus. If the patient's urine contains sugar and his venous blood sugar soon after a meal rises above 160 mgms. per cent, he should be given, for the first two days, **without insulin**, a diet of half the amounts described below*. On the third day and each day thereafter until the full diet is reached, the amounts should be increased by ten per cent. If sugar appears in more than one urine specimen, 3 to 10 units of insulin should be injected subcutaneously thirty to sixty minutes before meals. The amounts of insulin should be increased or decreased to keep the urine sugar-free, and the blood sugar between 80 and 120 mgms. per cent. Regular exercise also is essential (14).

If the amount of insulin is too large or the exercise excessive, hypoglycemia may cause an insulin reaction or shock. This should be treated immediately by giving the patient orange juice and sugar by mouth, or if necessary, by the administration of 50 per cent dextrose intravenously, 10 per cent dextrose subcutaneously, or 6 per cent dextrose by rectum. For temporary relief, 0.3 to 0.5 cc. 1-100 epinephrine may be given subcutaneously, and repeated in 15 minutes (14).

Diabetic coma must be distinguished from an insulin reaction and treated as follows: Gastric lavage always is necessary if the patient is vomiting. As much fluid as possible should be given by mouth. 5 cc. (per kilo of body weight) of Hartmann's molar lactate (Previously diluted 1 to 6 with sterile distilled water) should be injected intravenously and similar amounts of Hartmann's molar lactate (diluted 1 to 6), and 2 units of insulin (per kilo of body weight) injected subcutaneously, i.e. a total of 10 cc. (per kilo) of Hartmann's molar lactate (diluted 1 to 6) (or 60 cc. (per kilo) of the diluted sixth molar lactate; more is dangerous) and 2 units of insulin per kilo. The blood CO₂ capacity should be determined in advance, as this amount of Hartmann's molar lactate will raise the blood CO₂ capacity approximately 35 volumes per cent. As much Ringer's solution or Hartmann's "combined solution" as possible by mouth, and ½ unit of insulin (per kilo of body weight) subcutaneously, are administered every four hours. No dextrose is given by mouth until the patient's urine is sugar-free and

then a diabetic diet appropriate for his age is given (Table 3.).

6. Empyema. As soon as the diagnosis is definite by fluoroscopy and needling, drainage by Hart's tidal irrigation (15) should be started, i.e. a rubber tube is inserted through a trocar in the dependent part of the cavity, in a position which does not interfere with the patient's lying on the normal side or back, and so placed that the inner end of the tube whenever possible will lie on the diaphragm, or against the chest wall. The tube is fastened to the chest wall, as nearly air tight as possible, with adhesive tape, and connected to a Y tube, one end of which is connected to a reservoir containing sterile normal saline and the other end to a Wolff or aspirator bottle (with an opening at the bottom), which is placed on a level with the empyema cavity, so that there is a free tidal flow of the fluid during each respiratory cycle. At intervals, depending upon the amount, the pus which accumulates in the aspirator bottle, should be removed by syphonage. Four to seven days later, the aspirator bottle is lowered 1 to 2 cm. (½ to 1 in.) a day until 6 to 15 cm. (3 to 6 in.) of suction are obtained. The maximal suction never should be so great as to stop completely the tidal irrigation, and the cavity should be distended several times a day by raising the aspirator bottle slightly above the level of the empyema cavity. After seven to twenty days, the irrigation will stop, even though the aspirator bottle is raised to the level of the empyema cavity. If fluid then is forced into the tube, it immediately will return around the tube indicating that the cavity is obliterated, except for the sinus tract. The tube now may be gradually withdrawn, and the sinus allowed to close. Intrapleural injections of streptococcus or pneumococcus serum may be beneficial. That Hart's tidal irrigation is the method of choice for empyema in children is demonstrated in Table 4.

7. Epilepsy. Convulsions may be due to many causes, the most common of which in older children is epilepsy. If a brain tumor is absent, and the patient does not have hyperinsulinism, a starvation-ketogenic diet often is advantageous, i.e. one to four days of complete starvation are recommended, allowing only one or two sticks of chewing gum and 800 to 1500 cc. water daily, i.e. until the body-weight falls approximately ten per cent. Occasionally, when the ketosis, as determined by the amount of acetone in the urine, develops very rapidly, vomiting may be induced. Orange juice and other antiketogenic fluids are, of course, indicated at such times. On the day after the fast, a 4 to 1 or 3 to 1 ketogenic diet with

JOHN W. RAGSDALE, M.D.
CHESTER D. ALLEN, M.D.
327 Medical Arts Bldg.
Memphis, Tenn.

Urology and Urological Surgery

WALTER A. RUCH, M.D.

Practice Limited to Obstetrics
Suite 202 Physicians and Surgeons Bldg.
899 Madison Memphis, Tenn.

*The total calories needed in 24 hours are determined by multiplying the body weight in kilos X 90 (cal. per kilo for children under one year; X 75, for children between the ages of 1 and 5 years; X 60, for those between 5 and 10 years, and X 40 for patients between 10 and 14 years. The partition of the diet is calculated by prescribing foods sufficient to supply: 2 to 3 gms. of protein per kilo of body weight; and the balance of the total calories provided equally by carbohydrates and fat, i.e. 2 gms. of the former for each gram of the latter. An example is shown in Table 3.

maintenance calories is started (Table 5). This ketogenic diet is kept up at home for approximately one year, and then gradually reduced to a 1 to 1 ratio during the second year (22). As may be seen in Table 6, over half of the patients have been relieved of symptoms. If this diet is not successful, encephalography should be done, as occasionally seizures have ceased after the air injection. The intravenous injection of typhoid-paratyphoid vaccine, similar to those previously described for chorea have been recommended (23). Sedatives and limitation of fluids can be used for patients for whom ketogenic treatment is unsuccessful. The oral administration of 0.5 gm. (gr. viiss) sodium bromide and 0.03 gm. (gr. $\frac{1}{2}$) phenobarbital-sodium t.i.d. with a salt-free diet (less than 5 gms. daily) often is effectual. The phenobarbital can be omitted and the amount of bromide reduced as soon as the frequency of the seizures is reduced (24).

8. **Erysipelas.** Blood transfusions, the intravenous and intramuscular injection of 10 to 50 cc. of Amoss' anti-erysipelas (streptococcus) serum, ultra-violet therapy and injections of convalescent serum have been recommended. Patients who previously have had erysipelas should be desensitized with gradually increasing doses of either a stock or autogenous allergen of *Streptococcus erysipelatis* (see allergy above). By the use of repeated blood transfusions alone, the mortality in children has been cut in half (25).

9. **Fungus infection.** Pulmonary and other infections with *Actinomyces* and *Blastomyces* can be improved if sensitivity tests are done with the fungus concerned; if they are positive, the patient should be desensitized (see allergy above). This should be followed by the daily oral administration of 2 to 8 gms. (dr. $\frac{1}{2}$ to ii) potassium iodide and the daily inhala-

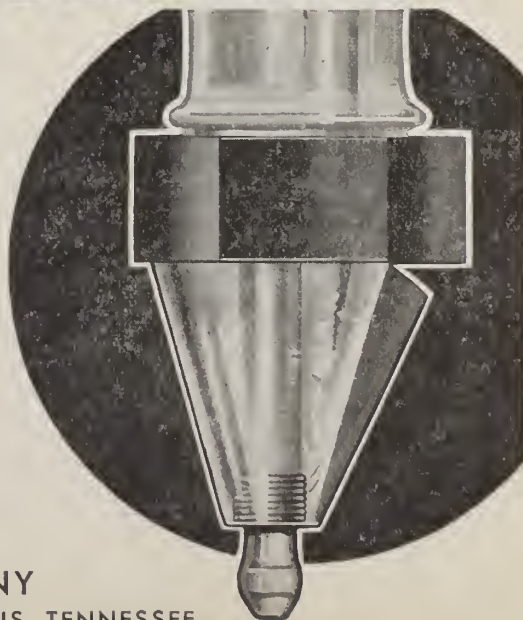
tion of 1 to 4 cc. (dr. $\frac{1}{4}$ to i) ethyl iodide. An inhalator can be purchased from Warren E. Collins Company, Boston, Mass. (26). For ringworm of the feet or scalp, one application of modified Whitfield's ointment usually will stop the itching, but if not, it may be repeated after an interval of three days. Recurrences are frequent, and should be treated in the same way. X-ray therapy is advisable in severe and resistant skin infections (5).

10. **Lung abscess,** if due to fuso-spirochetal organisms, usually can be cured by one or more injections of neo- or sulpharsphenamine at three day intervals. Operation and drainage should be used if the abscess has ruptured into the pleura. Postural drainage and bronchoscopic aspiration are beneficial (26).

11. **Meningitis.** A lumbar puncture should be performed on every patient who has signs of meningeal irritation. If the spinal fluid obtained is cloudy, as much as possible should be withdrawn, and 15 to 25 cc. of polyvalent antimeningococcus serum immediately administered intraspinaly by gravity. Next, the type of infecting organism should be determined microscopically and bacteriologically. If *Meningococci* are present in smears, or if no organisms are found, and the spinal fluid is cloudy, and the indol test is positive, 15 to 25 cc. of polyvalent antimeningococcus serum should be administered intraspinaly every eight to twelve hours, alternately through the lumbar and occipito-atlantoid space (cisternal puncture). If the *Meningococci* do not diminish after the second serum injection, antimeningococcus serum from another manufacturer should be tried. The addition of 6 cc. of fresh sterile Wassermann-negative human serum (complement) to the antimeningococcus serum just before the injection apparently increases its

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potency. As soon as the organisms disappear from smears and cultures, and the spinal fluid becomes less cloudy, serum should be given at intervals of twenty-four hours until the spinal fluid becomes clear (less than 200 cells per cmm.). Serum may then be discontinued, and lumbar or cisternal puncture performed at intervals of one to three days for the next two weeks, or until all symptoms of meningeal irritation disappear. If the spinal fluid becomes cloudy again, or if organisms reappear, serum therapy should be resumed. If the flow of spinal fluid becomes obstructed at any time, serum should be administered intra-ven-tricularly (5). If treated early and adequately, the mortality in any age group should not exceed twenty-four per cent. A meningococcus antitoxin also is said to be efficacious (27). If *B. influenzae* is present in smears or cultures, or suspected because of a positive spinal fluid indol test, 10 to 30 cc. of influenzal serum (Mass. Dept. Public Health, Boston) (28), and 6 to 8 cc. of fresh sterile Wassermann-negative human serum (complement), mixed just before the injection, should be injected intraspinaly as described above. A summary of the treatment of the various types of meningitis is given in Table 7.

12. **Intestinal parasites.** Of the three hundred anthelmintic substances, the five listed in Table 8 probably are the most useful. If *Ascaris* (round worm) and *Necator* (hookworm) both are present, the *Ascaris* infestation should be treated first. The details are described elsewhere (29).

13. **Pellagra.** In addition to giving the patient a diet containing milk and green vegetables, he should receive, by mouth, thrice daily, one to two teaspoonsful of brewers' yeast or wheat germ, or one ounce (30 cc.) of an aqueous liver extract. Intramuscular injections of the latter are beneficial in severe cases (30).

14. **Pyuria.** If a child's urine contains pus cells in clumps, she should drink as much water as possible, and an amount of sodium bicarbonate sufficient to keep the urine alkaline (0.3 to 1 gm. (gr. v to xv) 4 to 6 times per day) should be administered by mouth for several days. If no improvement results, intravenous urography (if the phthalein excretion is normal) or cystoscopy is advisable. Any abnormality found should be treated by a competent urologist. If no malformations are present, ammonium chloride (1 gm.; gr. xv) and methenamine (urotropin) (0.5 gm.; gr. viis) may be given thrice daily. Methenamine should be discontinued after two weeks, or at the first sign of kidney irritation, i. e. vomiting, or red blood cells in the urine. Caprokol (0.15 gm. to 0.5 gm. (gr. iiss to viiss) t.i.d., p.c.) or acriflavine (0.05 gm. (gr. 3/4) t.i.d.) are said to be efficacious. Pyridium is not recommended. The administration of a ketogenic diet (Table 5 and see epilepsy above) may sterilize the urine in from five to ten days (31). In some clinics, mercurochrome is injected intravenously on four or five successive days. This treatment in order of preference is listed in Table 9.

Summary. The treatment of fourteen diseases has been described to serve as examples of the sixty-three pediatric conditions in which therapy is so ef-

ficacious as to make their early and accurate diagnosis of the greatest importance in reducing infant mortality.

Table 1. Example of Curable Diseases

Allergy	Erysipelas
Anemia	Fungus infection
Arthritis	Lung abscess
Chorea	Meningitis
Diabetes	Parasites
Empyema	Pellagra
Epilepsy	Pyuria

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Table 2. **Elimination Diets 1 to 4** (The choice of diet and of the foods depends on the history of sensitization; the amounts must be adequate for the patient's needs). (8)

FOOD	DIET 1	DIET 2	DIET 3	DIET 4
Cereal	rice	corn tapioca	rice rye	milk alone for the test period, 2 to 3 quarts a day
Bread	rice biscuit	corn pone	rye-rice	
Meat or fish	lamb	bacon chicken	beef	
Vegetables	lettuce spinach carrots	squash asparagus peas artichokes	tomatoes beets string beans	
Fruits, and Jams and fruit drinks	lemon pears peaches	pineapple apricot prunes	grapefruit pears peaches	
Miscellaneous	sugar olive oil salt gelatin syrup made from cane sugar fla vored with maple olives (un- stuffed)	sugar Mazola oil salt Karo corn syrup	sugar Wesson oil salt gelatin syrup made from cane sugar flavor- ed with maple	

Table 3. **Diabetic Diet** containing 1,657 calories for a child between the ages of 5 and 10 years (average weight 28 kilos, 60 lbs.; 59 cal. per kilo). (The amounts and ratios must be changed for children of other weights and ages). (5)

FOODS	AMOUNTS	Protein gms.	Carbo gms.	Fat gms.
BREAKFAST:				
One portion of 15% fruits		0	10	0
Oatmeal (dry wt.)	15 gms. (1/2 oz.)	2	10	1
Whole milk	150 cc. (5 oz.)	5	8	6
Egg	1	6	0	6
Butter	5 gms. (1/6 oz.)	0	0	4
	Subtotal	13	28	17

LUNCH:

Lean portion of cooked pork or lamb	:60 gms. (2 oz.)	12	0	16
Whole milk	180 cc. (6 oz.)	6	9	8
4 portions of 5% vegetables		4	12	0
Whole wheat bread	30 gms. (1 oz.)	2	14	0
Irish potato	100 gms. (3 1/3 oz.)	3	20	0
Butter	15 gms. (1/2 oz.)	0	0	13

Subtotal 27 55 37

DINNER:

Lean portion of cooked pork or lamb	60 gms. (2 oz.)	12	0	16
--	------------------	----	---	----

Whole wheat bread	45 gms. (1 1/2 oz.)	3	21	0
Whole milk	240 cc. (8 oz.)	8	12	10
4 portions of 5% vegetables		4	12	0
One portion of 15% fruits		0	10	0
Butter	15 gms. (1/2 oz.)	0	0	13

Subtotal 27 55 39

TOTAL 67 138 93

Table 4. **Treatment of Empyema in Children under Two years of Age.**

Method	Hart's Tidal Irrigation (15)	Rib Resection (17)	Trocar & Cannula (17)
Patients	15	24	22
Deaths	2	7	11
Mortality	13%	29%	50%

Table 5. **Ketogenic Diet**, 3 to 1 ratio of fatty acid to available carbohydrate (fat, 165 gms., protein, 42 gms., carbohydrate, 19 gms.). con-**SAMUEL BROOKS CARUTHERS, M.D.**

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taining 1,729 calories, for a child between the ages of 5 and 10 years (average weight 28 kilos, 60 lbs.; 62 cal. per kilo, i.e. basal requirement plus 50%, including 1.5 gms. protein per kilo). (The amounts and ratios must be changed for children of other weights and ages.) (5)

Foods	Amounts
BREAKFAST:	
Tomato juice	¼ cup (2 oz.)
Cream (20% fat)	3/8 cup (3 oz.)
Eggs	2
Butter	6 level teaspoons
LUNCH:	
Lean portion of cooked pork or lamb	1½ oz.
1 portion of 5% vegetables	
Cream (20% fat)	3/8 cup (3 oz.)
Butter	6 level teaspoons
DINNER	
Lean portion of cooked pork or lamb	1½ oz.
1 portion of 5% vegetables	
Cream (20% fat)	½ cup (4 oz.)
Butter	4½ level teaspoons

Table 6. Results of the Treatment of Epilepsy with Ketogenic Diets. (18)

Report	Number of Patients	Complete Relief	Improvement	Proven Failure
Peterman (19)	70	54	32	14
Helmholz & Keith (20)	141	30	23	47
Luther (18)	27	33	41	26
Higgings (21)	41	27	41	32
Total	279	36	29	35

Table 7. Meningitis Treatment

Tuberculous: None, always fatal.

Lead, mumps, meningismus, aseptic: None, rarely fatal.

Meningococcus: Serum + complement, 24% fatal.

Influenzal: Serum + complement, usually fatal.

Pneumococcus, Streptococcus, Staphylococcus: Serum + complement; optochin, Pregl's iodine, dyes, intracarotid therapy, usually fatal.

Table 8. Treatment of Intestinal Parasites (29)

Parasite	Drug of choice
Ascaris	Hexylresorcinol
Oxyuris	Hexylresorcinol
Enterobius	Hexylresorcinol
Taenia	Aspidium
Diphyllobothrium	Aspidium
Hymenolepsis	Aspidium
Necator	Tetrachlorethylene
Trichinella	Tetrachlorethylene
Trichuris	Chenopodium
Strongyloides	Gentian Violet

Table 9. Treatment of Pyuria

- maximal fluids & 0.3 to 1 gm. (gr. v to xv) sodium bicarbonate 4 to 6 times daily (urine alkaline)
- intravenous urography or cystoscopy
- 1 gm. (gr. xv) amm. chloride & 0.5 gm. (gr. viiss) methenamine t.i.d.
- ketogenic diet
- caprokol (0.15 to 0.5 gm. (gr. iiss to viiss) t.i.d., p.c.) or acriflavine (0.05 gm. (gr. 3/)) t.i.d.)
- mercurochrome intravenously (1 cc. 0.5% sol. (5 mgms.) per kilo)

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—PART 4—

TETANUS

ISIDORE COHN, M.D., F.A.C.S.*
New Orleans, La.

In making the rounds of the hospital one is from time to time confronted by cases of tetanus. For that reason four cases which have been recently observed will be used to form the basis of this presentation. Three of the cases recovered and one died.

A brief summary of three of the cases follows:

Y. G., age 7 years, colored female, admitted to Charity Hospital April 24th, 1935, four days after cutting her heel on a piece of glass. On admission there was trismus, stiffness of the neck and general tetanic convulsions.

The wound was incised and 20,000 units of antitetanic serum given intravenously and 40,000 intramuscularly. Sodium amytal, 3 grains, given every six hours. Nourishment was given through an indwelling Levin tube. In all the patient received 180,000 units of serum, and sodium amytal was given regularly every four to six hours. Patient was discharged well on May 17th, 1935.

C. B. W., age 9 years, colored female, admitted

*Professor and Head of the Department of Surgery Graduate School of Medicine, Tulane University.
Chief of the Department of Surgery, Touro Infirmary.

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April 28th, 1935, nine days after receiving a punctured wound on the foot. On admission there was rigidity of the muscles of the neck as well as the abdominal muscles.

She received a total of 140,000 units of serum intravenously and intramuscularly and in addition sodium amyltal intravenously and nasal tube feeding. Discharged well on May 17th, 1935.

E. A., age 39 years, colored female, admitted May 13th, 1935. Punctured wound of foot four

total of 130,000 units of serum. She died May 22nd, 1935, nine days after admission.

The fourth case will be discussed in detail later on in the presentation.

Each case presented certain interesting, individual problems. It is not, however, primarily to the single case that I would refer, but to the factors to be considered in general with reference to the disease, its prevention and treatment to which your attention will be directed.

The natural questions which arise are:

1. What do we know of the etiology of tetanus?
2. What is the present mortality? What was the mortality before the advent of serum?
3. Could a particular case have been prevented?
4. Is serum an absolute prophylactic agent?
5. Should serum be used as a routine prophylactic measure in all punctured wounds?
6. Is serum indicated as a prophylactic agent in any type of operation?
7. Is the use of serum as a prophylactic agent or in the treatment of tetanus free from danger?
8. Is serum curative?
9. What are the available methods of treatment of tetanus other than serum?

These and many other questions must be answered promptly by the attending surgeon. It is estimated that there are not less than 1,500 deaths annually in the United States from tetanus. The mortality continues high. In private practice the average man sees tetanus only occasionally.

Because of these many factors I believe it worthwhile to try to answer some of the questions listed above.

As early as 1880 Sternberg announced that he had produced tetanus by injecting gutter water and earth into animals.

In 1884 Nicolaier demonstrated the tetanus bacillus in pus taken from wounds in animals in whom he had experimentally produced tetanus introducing "earth" into small pockets in the root of the tail of animals.

In 1889 Kitasato isolated a pure culture of the tetanus bacillus. One year later Behring and Kitasato introduced antitoxin as a prophylactic agent.

It will, therefore, be seen that in the decade from 1880 to 1890 the etiologic factor was demonstrated and a beginning was made in an effort to prevent a great number of tetanus cases seen throughout the country.

What effect the introduction of prophylactic agent had upon the incidence of the disease and the mortality may be gleaned from the literature of that time.

Nicholas Senn in 1890 stated: "In acute cases of tetanus the most that can be expected from treatment

is palliation. If death does not occur within two weeks the prospects of an ultimate recovery are good."

These observations, we must remember, were made prior to the introduction of serum.

It is also worthwhile to digress at this point and mention an extremely interesting observation made by Senn: "The patient must be nourished with liquid food. If swallowing is impossible, a small elastic tube is introduced through one of the nostrils into the stomach and food administered at regular intervals by this method."

In this observation of Senn, made as early as 1890 we see the forerunner of the use of the nasal tube which was so effectively popularized later on by Dr. A. L. Levin, of New Orleans.

As late as 1903 Da Costa stated: "The value of tetanus antitoxin is doubtful."

In 1918 Herman Gessner, of New Orleans, studied the question of the management of tetanus and in his report stated: "The mortality from 1840 to 1889 was 79.1%; from 1890 to 1917 it was 70.7%. The reduction in mortality, 79.1% to 70.7%, is small compared with that in other diseases in which antitoxic serum is employed."

Graves in reviewing 813 cases at Charity Hospital from 1906 to 1930 noted that the mortality from 1906 to 1922 was 67.4%; from 1923 to 1929 reduced to 52%.

Gage and De Bakey have recently reported 15 cases with a mortality of only 20%.

Richard Miller reporting from the Massachusetts General Hospital in 1935 states that their mortality has declined to less than 47%.

One of the most interesting of all statistical compilations was made by Golla in 1917. He reported on an experience with 640 cases in the British Hospitals both in England and France. The total mortality was 50.8%. In this study he reviewed the experiences of Friederich published in 1838 with 252 cases and a mortality of 50.9%. Those of Kirschman in 1889 with a mortality of 44.6%.

It will thus be seen that even in the pre-antitoxin period large groups were reported with a mortality ranging almost as low as some of our present statistical compilations.

Does this indicate the lack of curative value of serum or does it point to the usefulness of other measures utilized in the handling of tetanus cases?

In order that any treatment is to be effective one must understand as far as possible the travel routes of the organism and its toxins. It is also essential to appreciate the effectiveness of the treatment to neutralize the toxins and the inherent dangers, if any

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exist, from the indiscriminate use of serum.

Ranson as early as 1917 stated that tetanus toxins travel along lymph channels and by way of the thoracic duct reach the blood stream. After "twenty four hours the lymph and the blood contain per cubic centimeter about the same amount of toxin." He added "it must be remembered that the toxin in the nerves and nerve cells is inaccessible to antitoxin."

It is further agreed that the toxin "reaches and becomes firmly fixed in the motor cells of the nervous system, there causing irritative phenomena which result in tonic and clonic muscle contractions." (Miller)

It is commonly accepted that patients with tetanus "die not from the underlying disease process, but from the symptoms." (Huntington)

The fundamental importance of the above observations is reflected in our present management of tetanus cases.

In zealous attempts so often made to cure tetanus by pyramiding the units of tetanus antitoxin, the toxin elaborated by the bacillus is overlooked.

Rosenbach first suggested that the bacillus described by Nicolaier and Kitasato elaborated a strychnine-like poison, and Brieger and Fraenkel demonstrated the existence of this toxin. It is now universally recognized that the toxin so elaborated is the active agent in the production of tetanus. (Huntington)

If we accept the above it follows that the active treatment must be directed along several lines:

1. Treatment of the local lesion.
2. Antitoxic serum.
3. Management of tetanic contractions.
4. Maintenance of the patient's nutrition.

The first of these factors, the local lesion, is often

entirely over looked. The wound should be incised or debrided, but not cauterized.

The serum should be administered in large initial doses intravenously alone or intravenously and intramuscularly, but not intraspinally. How much should be given and how frequently repeated remains a moot point. Miller states that from 20,000 to 80,000 units should be given daily up to a total of 300,000 units.

Wainwright in 1926 was satisfied to give an initial dose of 30,000 to 50,000 units and repeat if indicated.

Taylor's cases received up to 420,000 units. Those receiving over 200,000 units the mortality was only 20%, whereas those receiving 100,000 units or less the mortality was 52%.

In spite of the fact that he gave such massive doses he states that the average tetanus patient continues to be loaded with massive doses of serum. He further states that it seems unnecessary to administer the huge quantities used at present, and that he would recommend from 30,000 to 60,000 units to be given when the patient is first seen. This may be repeated if the case runs a long protracted course. He further observes that "serum should be considered an adjunct and not a specific in the treatment of active tetanus."

One of the safest guides in the use of serum is to realize that pyramiding our dosage does not neutralize the toxin which has become fixed to the nerve cells, hence the intensity of tetanic contractions is not an indication for increase in dosage of serum but is a definite indication to have the dosage of relaxing substances, such as sodium amytal or avertin, increased.

Illustrative of the point so far made the follow-

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ing case is herewith presented:

Mrs. P., age 17 years, white female, was admitted to Touro Infirmary on October 5th, 1935. Ten days prior to admission she had had a criminal abortion by a wid-wife. On admission to the hospital her temperature was 100, pulse 120 and she complained of pain in the neck and back and an inability to open her mouth.

On examination we found a marked rigidity of the muscles of the neck, trismus and opisthotonos.

Blood count was 17,000 white cells with 93% polys.

She was given 30,000 units of antitoxic serum intravenously and about 4 grains of sodium amytal as a test dose intravenously. Four hours later $7\frac{1}{2}$ grains of sodium amytal was administered intravenously. In all from October 5th to October 8th she was given 110,000 units of serum, all by the intravenous route. Sodium amytal in $7\frac{1}{2}$ grains was given every 6 to 8 hours.

In addition to the use of sodium amytal it was necessary to administer chloral hydrate by way of the nasal tube. Nutrition and the fluid balance were maintained by the use of the indwelling Levine tube for a period of nearly three weeks.

On the 10th of October, five days after admission and two days after the last dose of serum she developed a severe serum reaction.

This patient continued to run a temperature ranging between 102 and 105 until October 20th and from that time on the temperature curve gradually declined.

Her recovery was complete in every respect.

There are several extremely interesting things in connection with this case. In the first place tetanus followed a criminal abortion. Secondly, she developed two apparently independent serum reactions, one five days after the first serum injection and the other twelve days after the last serum was given. The response to adrenalin following the serum reaction was marked and gratifying.

The total amount of serum given was 110,000 units. The nutrition was maintained throughout by nasal feeding and the restlessness and tetanic contractions were controlled by the use of sodium amytal intravenously. The serum reaction which followed in this case was sufficiently severe to make me feel that any additional serum may have proven disastrous in its effect.

This expression of conviction on my part is so different from the following quotation taken from a standard textbook on surgery: "In the administration of antitoxin one should always be mindful that the serum is absolutely harmless, and can be used repeatedly and in large quantities without any untold effects." I do not believe that that particular expression is representative of the general attitude today because at the present time most of the profession are conscious of the effect of foreign body proteins on the animal economy.

The reaction which occurred during the course of the therapeutic use of serum in this case brings up two natural questions—the first, is the prophylactic use of serum devoid of danger? The obvious answer is no, yet the protection offered to the great majority far out weighs the importance of the infrequent reaction. The corollary to the above is that

the profession should be as conscious of methods of desensitization as they are for the need for prophylaxis.

One of the lessons of the great war emphasized the inadequacy of a single dose of antitoxin in certain types of infected wounds to prevent the development of tetanus. More than this, we are all too conscious of the fact that one punctured wound received in potentially dangerous surroundings does not prevent the recurrence of the same accident in a short while. If serum is given a second time without proper desensitization of the patient a disconcerting reaction may occur.

We are reminded that serum indiscriminately and routinely given without reference to the actual indications is a poor policy, one based on a false premise—that of supposed protection. In reality it is a policy which subjects the patient to an unnecessary risk. This will be discussed a little later on under the subject of the routine use of serum in all punctured wounds.

For the present I would like briefly to remind you of the manifestations of serum sickness, the methods of desensitization and the treatment of the reaction when it occurs.

Serum reactions may be manifest in two days to two weeks following the intramuscular injection of horse serum. A chill, fever, as high as 104, and an urticarial rash or even a measly or scarlatinoform type of eruption may appear. Tachycardia and at times dyspnoea with great restlessness are experienced. It is true that adrenalin administered promptly relieves some of these symptoms. It is also true that most of the reactions are mild, yet they may be severe and at times extremely disquieting.

If the patient has previously had serum desensitization may be done after the plan described by Dick: "A 1-10 dilution is made by taking 1-10 cc. of serum to 1 cc. Subcutaneous injections may then be made as follows every 15 minutes."

First injection $\frac{1}{4}$ cc. of 1-10 dilution

Second injection $\frac{1}{2}$ cc. of 1-10 dilution

Third injection 0.1 cc. of undiluted serum

Fourth injection 0.5 cc. of undiluted serum

Fifth injection 1.0 cc. of undiluted serum

"One half to one hour later the remainder of the necessary amount of serum may be given."

Should serum be administered routinely as a prophylactic measure in all punctured or potentially contaminated wounds? This question has been answered variously by surgeons working in different sections of

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our country and in various industries.

In 1916 Miles F. Porter stated: "Prophylactic injections of antitetanic serum should not be used save in patients with wounds inflicted under circumstances rendering infection by the tetanus bacillus probable."

Wainwright in 1926 contacted 2,000 surgeons associated with great railroad systems, oil companies, packing houses and from them he obtained the information that only 250 cases had occurred among the millions of cases in which wounds had been treated during a period of four years.

Wainwright's conclusions are:

1. "Tetanus is rare in the ordinary type of industrial wound." He found that only 83 industrial surgeons employed prophylactic serum injections as a routine and of these only 20 live North of the Mason Dixon line.

2. The routine use of prophylactic serum injection is not justifiable.

3. "The disease is one of soil contamination and all wounds received in stable, and barnyards, all contaminated or possibly so with soil or street dirt, Fourth of July wounds, gunshot wounds, should have serum."

4. "In ordinary industries we will have to accept the possibility of tetanus arising in the most unexpected cases and rely on the possibility of improved curative treatment."

You will note that the preponderance of those routinely using prophylactic serum injections are from our own agricultural section. In country districts where manured soil contamination of wounds is not infre-

quent such patients should have serum.

It does not follow that all punctured wounds require antitetanic protection. Under certain consideration early and adequate attention to the wound itself will be sufficient. The conclusion that seems safe is that serum should be given as indicated by reason and not because of the existence of a punctured wound.

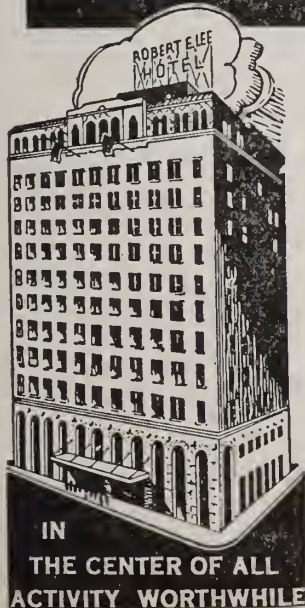
There is another indication for the prophylactic use of antitetanic serum, one which we owe, like many other things, to the thoughtful suggestion of Dr. Matas.

In 1909 Dr. Matas before the American Surgical Association advocated what he called an antitetanic dietary in the pre-operative preparation of all patients about to have rectal or perineal operations done. His practice was based upon an experience of having had two post-operative deaths, one following a perineoplasty and the other a hemorrhoid operation. He taught that the intestinal tract was a harbinger of living tetanus bacilli "swallowed in raw, uncooked vegetables, berries and other fruits which are cultivated in fertilized or manured, that is, tetanized soil."

As the result of his experience he taught and practices the following antitetanic preparation "purgation three days before the operation, the suppression of all raw uncooked food, especially green vegetables, berries and other fruits for the same period of time before the operation. In emergencies, when dietetic preparation is impossible, 10 cc. of tetanus

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antitoxin are injected subcutaneously at the time of the operation, while the patient is still under the anesthetic."

His experience of having observed tetanus follow operations about the perineum was not unusual. In the records of the Southern Surgical Association for 1897 F. D. Thompson, of Worth Worth, Texas, reported a death from tetanus following an operation for varicocele. In the discussion of this paper the late Dixie Douglas stated: "We should learn the lesson never to speak too positively, too assuringly, no matter how small the operation we undertake."

Kellogg Speed in 1916 quoted Noble who found that the feces of 18% of 61 horses examined contained tetanus organisms. He also quoted Pizzini who found 5% of human beings who showed tetanus bacilli in their stools. Kellogg Speed advocates the Matas routine in the pre-operative preparation of patients.

Huggins in 1920 stated "It is significant that the Surgeon General of the United States Army ordered a prophylactic dose of tetanus serum given before all rectal operations during the late war. It is probable that this may become a routine under certain circumstances."

It is significant that in this region, which has had the opportunity of being influenced for more than 50 years by Dr. Matas, one finds only a few who are conscious of and who practice antitetanic dietary in the pre-operative preparation of rectal and perineal cases.

Those who have been unfortunate enough to have observed a case of tetanus following in the wake of a simple varicocele operation and a young life snuffed out need no other urge to heed the warning giving by a master surgeon nearly 30 years ago. The primary lesson, I believe, to be gleaned from the above facts is that patients to be subjected to rectal and perineal operations should have, except in emergencies, adequate pre-operative preparation with a view of avoiding tetanus.

SUMMARY

1. Tetanus is sufficiently common in agricultural sections of the country to make us "tetanus conscious."
2. Prophylactic serum injections should be given when there is a definite indication.
3. Routine indiscriminate use of serum without regard for the inherent dangers of such a procedure is to be condemned.
4. When serum must be administered a second time to a patient desensitization should be practiced in an effort to avoid, if possible, a serum reaction.
5. In the treatment of tetanus developed cases of tetanus needless pyramiding antitoxic serum units has not proven to be necessary. Intra-spinal injections of serum are ineffective.
6. Sodium amytal and avertin are valuable agents in the treatment of tetanus. To be effective they must be given in adequate dosage to relax the patient.
7. The nutrition and fluid balance should be maintained by the use of the indwelling tube of the Levin type.

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Skin Cancer: A Review of Recent Literature With Special Reference To Radiation Therapy

DR. J. A. BEALS
Greenville, Miss.

The skin is one of the most prevalent sites of cancer, yet most skin cancers are so readily cured, or pursue such a benign course, that the Metropolitan Life Insurance Co.,¹⁰ 1911 to 1930, records only 1.8% of cancer deaths, ages 1 to 74, as due to this cause. The death rate according to this important source is about twice as great for white men as it is for white women, and about 3½ times the rate for negroes. The incidence rises rapidly after age 45. Forty per cent of skin cancer deaths occur after age 74.

The annual death rate has decreased slightly since 1911, according to the above source. Skin cancer being an external cancer, occurring principally on the face and hands, has always been subject to more accurate diagnosis than most other varieties. Therefore, this decreasing death rate is evidence of considerable weight that cancer is not actually increasing, the apparent increase which involves less visible varieties being explained by more searching diagnostic procedures.

The actual incidence of skin cancer is not known. It is undoubtedly higher than indicated by mortality rates, since many cases are cured, and many of the aged die with, but not of, skin cancer. At the Memorial Hospital in New York, 1917-1929, about 13% of cancer cases were of the skin.¹¹

There are two main varieties of skin cancer, (1) acanthoma, prickle cell or squamous cell carcinoma, and (2) basal cell carcinoma or rodent ulcer. The former predominates only slightly.⁸ Between 12 and 15% are mixed basal and squamous cell tumors.¹⁴ In addition occasional adeno- and adeno-cystic carcinomas are recognized, probably the derivatives of oil and sweat gland epithelium. Most skin cancers are of slow growth. The squamous variety metastasizes to regional lymph nodes, usually late, if at all. The basal cell type invades locally, very slowly, never metastasizes, but if unchecked they become widely destructive, causing death by involving vital structures. Some of the adenoid varieties, and rarely an undifferentiated squamous carcinoma, metastasizes to distant structures. Squamous carcinoma tends to appear at a later age than basal; both varieties predominate above the level of the clavicle—75% of squamous and over 90% of basal cell types. The squamous variety is more prevalent among men.

Several additional varieties of malignant skin tumors are known. The melanoma, erroneously called melanosarcoma, usually arises from a pigmented mole that has been irritated. It is not common but it is important because of its early, rapid, wide-spread metastases, and almost certain fatality.

Sarcomas of the skin are rare. The multiple hemorrhagic sarcoma of Kaposi, of low grade malignancy, is distinctive and perhaps best recognized.

Special mention need not be made of many named varieties of common basal and squamous cell cancer, and several neoplasms of exceptional rarity.

Advanced ulcerated stages of skin cancer are

recognized as such by nearly everyone, by the laity about as well as the physician, although with less appreciation of the gloomy prognosis. It is the early stage, when the lesion is no larger than a bean, that needs better recognition by all, for then the lesion is nearly always curable.

Squamous cell epithelioma often, but not always begins on the basis of a patch of senile keratosis, a fissure, chronic abrasion, or warty excrescence. The first sign of malignant change is usually an induration or thickening of the epidermis at the base of some one of the precancerous dermatoses. Some tend to pile up quantities of epidermal scales on their surface, while other early lesions may retain a smooth, rather flat, surface and tend to grow downward into the derma. All are characterized microscopically by invading cords and strands of cells which retain some of the characteristics of prickle cells. Sooner or later the epithelioma ulcerates, often with a papillary ulcer base which crusts over and bleeds rather easily. The margins are usually rather hard and elevated. The lesion is not often painful in the beginning but may sting, itch, or burn slightly. Extension may be rather rapid laterally and deeply. Whatever the size, fixation to underlying fascia, bone or cartilage is evidence of deep seated invasion and foretells much therapeutic difficulty. Regional nodes are often palpably enlarged due to infection but are invaded by the cancer only at a late stage.

The early basal cell epithelioma is often indistinguishable, morphologically, from an early squamous cell cancer. Its rate of growth tends to be slower; it is less prone to develop from pre-existing keratosis, it more often appears at first as a brownish or reddish nodule within the skin, sometimes in patches, the surface of the lesion remaining smooth. Some varieties remain quite flat, spreading peripherally while healing centrally. Histologically the basal cell epithelioma is characterized by a festoon of down growing cords and strands of small, dense staining cells of the basal layer of the skin. Frequently an approach to adenoid arrangement is assumed, and small cysts are common. The early lesion ulcerates at its center, crusts, bleeds, and usually has a characteristic rolled edge. These lesions predominate on the face, especial-

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ly about the nose and eyelids. They usually progress very slowly, often over a period of years, invading widely and deeply, if not checked by treatment. They are radiosensitive in contrast to the squamous cancer.

There is nothing to distinguish the mixed squamous and basal cell type, which also spreads to regional nodes. In fact, there is little to differentiate with finality between the two main types in their early development, except by the microscopic examination.²¹ Routine biopsy is often advised, but this seems impractical for early lesions unless surgery is the main reliance for treatment, for the biopsy had as well be extended a little and eradicate the lesion. In the later stages biopsy furnishes invaluable information as to the type, grade of malignancy, and radiosensitivity.

More is known of the etiology of skin cancer than of most other varieties.^{10, 4} They occur principally on the skin of the face and hands. This is presumed to be due to prolonged irritation from the sun's rays. Farmers, sailors, and other out-of-door workers are particularly susceptible.

Those whose occupation have entailed prolonged or excessive exposure to X-rays and radium rays are prone to develop skin cancer. Radiant heat is also a probable etiological factor in certain instances.

Occupations which bring the skin in contact with lubricating oils and tar, over a long period of time, usually with an added element of chronic irritation, are productive of skin cancer in man, seemingly identical with the experimental tar cancers induced in animals.

Prolonged use of arsenic results in a chronic dermatosis which sometimes progresses to canceration. Some other skin diseases, notably lupus vulgaris, also predispose to skin cancer.

Knowledge of these etiological factors points the way to effective prophylaxis. While it is not always practicable to have an individual change his occupation it does seem worth while to encourage cleanliness in those who work with oils or tar; to avoid the unnecessary use of arsenic preparations; and to encourage out of door workers to protect their faces from the sun by wearing a broad brimmed hat.

Treatment consists of complete local eradication. This is possible of attainment for most cases by a variety of methods—chemical, thermal, by radiation, surgery, or combinations of these. Selection of the destructive agent should be governed by the limitations of the therapist. Radiation plays a prominent part in treatment. It is an excellent general rule that when a skin cancer is to be treated without a previous biopsy, the treatment should be chosen for the more malignant squamous cell type, for purely clinical judgment as to the type of cancer may prove grave-ly at fault.

There has been no serious attempt to discount the effectiveness of conventional surgical methods for early and advanced cancer of the skin, provided that complete excision is practiced. Popular objection to the scar, and prejudice against the knife, have somewhat displaced surgery for radiation and combination methods which are equally effective in many cases and usually less scarring. Surgery by scalpel, actual cautery, or electro-surgical method is often useful for removing the bulk of growths which are to be treated with chief reliance upon radiation, and some form of surgery is indispensable in those cancers which have

infiltrated cartilage or bone or involved inaccessible cavities, as the orbit and nasal cavities.

Of the many reports on skin cancer, this reviewer finds but few favorable to irradiation. Naegeli²⁰ (Berne, Switzerland, 1930), after reviewing statistic from several countries, decides to continue surgical treatment, reserving radium for precancerous conditions, and in surgical after-treatment. New,²¹ of the Mayo Clinic, favors surgical removal of all skin cancers of the face, this to be followed by skin graft and plastic surgery. He says that cures are 93% when bone and cartilage have not been invaded.

Taussig (1932)²⁹ says that for the past few years he has treated most skin cancers by curettage, followed by electrodesiccation or cautery, with entirely satisfactory results. An earlier article indicates that he frequently uses radon or radium in the wound, especially in squamous cell cancer.

MacKee (1932)^{13, 14} vigorously re-asserts the contention expressed for years in his text on radiation therapy in dermatology; namely, that squamous cell epithelioma (especially of the lip) is a lesion for surgical excision whenever possible. He now advocates biopsy if there is a doubt as to the type of lesion. His attitude is shared by most dermatologists and some surgeons; but most radiologists (as Martin⁶ 1932) feel that dermatologists generally have not treated this type with sufficiently massive dosage.

MacKee advocates radiation before and after surgical or electrosurgical removal of squamous cell epithelioma, and is aware that radiation alone will cure many such lesions, if small, and may be the chief factor in the cure of advanced, inoperable les-

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ions. He has long favored filtered or unfiltered x-rays, or radium by surface applicators for basal cell carcinoma.

Out of 28 years' of experience Belot (France, 1931) advises the adaptation of the method to the case. He strongly urges combined treatment. In squamous cell carcinoma he prefers to give first 12,000 to 18,000 r. deep therapy, curet after eight days, and follow this in some cases by a second smaller dosage of lightly filtered x-ray. He believes this method produces more permanent cures of squamous cancer than any other form of treatment.

Pfahler and Vastine²⁴ (1934) also emphasize the adaptation of method to the requirements. They frequently begin treatment by electrodesiccation, followed by a full erythema dose of radiation. Some cases of adherent cancer respond well to x-rays alone. They advise deep x-ray treatment of the nodes in the drainage area. Of 1713 cases they report that only 17 died of cancer.

Halbertaeder²⁵ (Germany, 1930) reports a series of 556 skin cancers treated by his method which consists of: first radium externally or interstitially, followed by electro-surgical removal of any remaining tumor, and this followed by radium externally applied. He reports 93% cures of superficial lesions and 61% cures of infiltrating lesions. When previous treatment had been ineffectual his cures were very much fewer.

Many therapists of skin cancer now rely chiefly upon radiation in some form. Techniques are far from standardized. The tendency has been to greatly increase the total dose of radium or x-rays. Interstitial radium or radon has found increasing use with a tendency to increase the filtration. The time interval during which radiation should be applied is an unsettled question, some favoring massive single dosage, others small repeated, or small continuous doses over a relatively long time.

In a review of this character it is even less practicable to describe radiation techniques in detail than it would be to describe a series of surgical operations in technical detail. All that can be attempted is to indicate the general character of procedure.

The radiation methods in use at Memorial Hospital, New York, are described by H. E. Martin²⁷ (1931). Radon is largely employed at this institution. Gold seeds of 0.3 mm. wall thickness are used for intra-tumoral use, and radon tubes in various combinations as plaques and trays are used for application at or near the surface. X-rays of relatively low voltage, with little or no filtration, are also used. The technique is varied according to the general characteristics of the lesion, its location and the depth of its extension. No one method is best adapted to all conditions. He says of x-rays that they are the most economical form and if x-ray alone is available a fair degree of success can be attained by its intelligent use.

For very superficial and precancerous lesions Martin highly recommends the use of a glass bulb containing 300 to 500 millicuries of radon, used by contact without filtration. With this he obtains an intense superficial effect very quickly, and thus can treat many lesions within a short time.

Cutler,²⁸ Michael Reese Hosp., Chicago; 1932) describes his method of radium treatment which is typical of the modern trend away from the use of surface applicators and relatively small dosage. Cutler

applies radon or radium, highly filtered so as to give only the shorter gamma rays, giving 150 to 200 mg. hours per sq. cm., applied continuously throughout several days. He lays great emphasis upon the importance of uniform distribution and prolongation of radiation, in which he follows the ideas of the French School.

A similar technique is employed by Rozberg²⁶ (England, 1932) who favors radon seeds, as a loss of little value if the patient fails to return; besides they do no harm if left in situ, owing to their exhaustion within a few days.

Burrows,³ (England, 1932) gives a detailed description of his technique, also favoring prolonged application of radium needles screened with various thicknesses of platinum according to the size and depth of lesion. He is not convinced that squamous cell cancer requires excision.

Finzi⁷ (England, 1932) favors treatment by radium in massive, not prolonged dosage, by plaques or tubes applied externally, often with great filtration up to 1 or 2 mm. of platinum. He considers that anyone who does not cure 90% of his patients, including advanced cases, should examine into his methods for the cause of his lack of success.

Magnusson⁵ (1932) of the Radiumhemmet, Stockholm, reports a three year cure rate of 77.3% for the 749 patients treated by radium. 80% of whom had basal cell cancers. Treatment was by surface applicators, radium needles, and only exceptionally by x-ray or radium at a distance. The prognosis was found to become decidedly less favorable when the lesion exceeded four square centimeters in area.

Neilson²² (1933) of the Radium Station, Copenhagen, reporting 277 cases, indicates that radium plaques with moderate screening of silver or lead, was the agent most often used. Ninety per cent of small lesions were cured but only 21% of infiltrating tumors were cured. He believes that generally the entire destructive dose should be administered at one time, except when cartilage or bone is involved, when protracted X-ray treatment should be employed, if not surgical removal from the start.

Epithelioma of the eyelid constitutes a special problem. Most of them are of basal cell type and therefore curable by radium which is the easiest to apply. H. E. Martin²⁷ favors implantation of gold filtered radon seeds as effective, less irritating to the sensitive conjunctiva, and, because the effect is well localized to the tumor there is less danger of producing cataract. Surgery is favored for many epitheli-

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omas of the lids.

It is generally conceded that when skin cancer involves cartilage or bone, surgery should be applied if possible. Heavy curative radiation is prone to result in necrosis and chronic painful ulceration. However, advanced inoperable cancers involving bone and cartilage may be held in check for long periods by repeated application of relatively small doses of highly filtered gamma rays, or repeated small daily applications of short wave X-rays.

There are many who favor X-rays as the principal agent for treating skin cancer. Grier⁹ (Philadelphia, 1932) restates his method which he has used for 18 years. This consists of giving 5 to 7 skin erythema doses, unfiltered, every day or every second day for two to five times (making a total of 5,000 to 15,000 r.) He is well pleased with his results but gives no statistics.

Martin¹⁶ (Dallas, 1932) and Murphy (discussion) also recommend the hypermassive treatment.

Widmann³⁰ (Phila. Gen. Hosp., 1932) reports favorably on this method applied to large epitheliomas of more than 1 cm. thickness.

Meischer¹⁹ (1934) of Zurich, gives the results of 530 cases treated mainly by X-rays. Basal cell cancer responded well. A small group of 68 cases of squamous cell tumor with a diameter of less than 2 cm. showed a cure rate of 66% for a period of 1 to 5 years. Larger tumors were cured in only 27% of instances. Dosage varied from 1,200 up to 4,800 r. Since 1928 he has adopted the protracted fractionated method of Coutard, but time has not elapsed for evaluation of this method.

The New York State Institute for Cancer, according to Schreiner,¹⁷ (1933) treats squamous cell cancer principally with superficial and deep X-rays, apparently not by hypermassive dosage. He reports 104 cases of squamous carcinoma which had not progressed to involvement of bone or cartilage. Of these 54.8% were cured for five years or more.

Failure to cure most cancers of the skin by any method usually results from undertreatment. The great majority of recurrences appear within the first year after treatment, but a sufficient number appear late that these patients should be kept under periodic observation for at least three years.

Recurrences are always difficult to handle. Those which appear after radiation are prone to have become radio-resistant.

It is generally conceded that melanomas and irritated moles should be excised with a wide margin of normal skin, although Evans⁶ (1931) reports success with very large doses of unfiltered, soft X-rays. If glands are invaded their treatment is usually futile, either by surgical dissection, which should be complete, or by intensive deep X-ray treatment.

Several other malignant conditions of the skin have been omitted from consideration, on account of their infrequent occurrence and little agreement as to their appropriate treatment.

SUMMARY

A brief review of skin cancer has been attempted, with some emphasis upon the early lesions, most of which occur on the exposed parts of the skin and are therefore to be seen daily by the patient or his physician during the several months, or even years, that most of them remain in the curable stage. They

are not so malignant as many other forms of cancer but all of them will prove fatal, or at least horribly disfiguring if not checked by adequate treatment. By any one of several methods fully 90% are cured when small and not deep rooted in the skin and underlying structures, but this exceptional prognosis declines to 30% or worse for old, neglected lesions.

Radiation attained early success in skin cancer and has remained a method of ever increasing value. A variety of radiation methods have been developed which make this a flexible form of treatment, especially when combined with surgery.

The treatment of skin cancer furnishes the most gratifying results within the entire field of cancer therapy.

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Dr. C. S. Beck



"As a man thinketh in his heart so is he." The heart power moves the world. Heart disease kills more people than any one other disease. Doctors seem to be especially prone to heart disease. Dr. C. S. Beck, of Johns Hopkins University, should be of great interest to every doctor in the Mid-South. He will be with us at the Mid-South in February. We wrote and asked him about some of the late things being done for the heart and on the heart. You saw his answer to these, to some of them in the last issue of the journal. His subject is "The Heart as a Surgical Organ." We shall be looking forward with pleasure and profit to the coming of Dr. Beck.

Malaria and Its Complications*

DANIEL L. HOLLIS, M.D.
Biloxi, Miss.

Students of medicine and medical writers tell us that malaria is one of the oldest diseases known to medical science. Hippocrates gave a good description and classification of tertian, quotidian and quartan malaria. Plautus who died in 184 B. C. wrote about what is believed to have been malaria in Italy. Since that time malaria has been taking its toll of lives and while modern methods of sanitation have greatly reduced its toll in the United States, statistics show from the world as a whole that malaria is still one of the largest causes of death. A recent epidemic of malaria has swept the Island of Ceylon and from November, 1934 to March, 1935 caused 114,000 deaths as compared with 47,100 deaths during the same months of the previous years. Its economic losses cannot be estimated, and today it is still present in all parts of the world and while malaria is one of the so-called well known diseases, I dare say that there is not one among us who at times have not been puzzled about it and have not had considerable trouble in ruling it out and treating it, for it can at times, and does, play a very deceptive role. In this brief paper we are not concerned with malaria as a whole but of its complications, for it is the complications that causes the greatest mortality. I will, therefore, confine this paper to diagnosis, complications and treatment.

Diagnosis: Is Made,

A. If the parasites are found in the blood.

B. When the parasites are absent, if the physical signs and clinical symptoms, in the course of the disease, justify the diagnosis.

General Gorgas, when he was chief health officer of the Panama Canal Zone, when he would make rounds on the medical service of Ancon Hospital, would ask a patient this: If you had a chill, when? If the patient replied, during the day, he would suspect malaria, if the patient replied during the night General Gorgas would suspect yellow fever or some other disease and ask that the patient be placed under observation. A striking thing about the malaria chills is the fact that they almost always occur during the day, and it is very rare for a malarial

*Read before Harrison, Hancock and Stone Counties Medical Society, May 1, 1935.

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chill to occur during the night. The first and only chill in yellow fever in the vast majority of all cases occur during the night. In malaria there is likely to be several chills, whereas in most other diseases there is, as a rule, only one. Jaundice varying from a light to a deep yellow, but always lighter near the cornea, is a diagnostic point and enlargement of the liver and spleen is nearly always present.

Complications: Here we are concerned with only the important ones:

A. Cerebral or Comatose Type.

B. Hemoglobinuria.

C. Cachexia with hepatic and splenic enlargement.

The Cerebral Type: Has usually had several paroxysms, occurring in the course of recurring attacks or relapses, which have been improperly treated. Usually the patient is stricken very suddenly with a severe paroxysm and usually ushered in with a chill, (but the chill may not be the initial symptom) vomiting and rapidly developing unconsciousness and high temperature. There may be delirium for a while, giving way, however, to more or less complete coma, which may last as long as 24 hours, the pulse at first bounding and then becoming feeble, respiration irregular, skin hot and dry, the eyes showing conjunctival hemorrhage, the face cyanotic and, unless prompt and proper treatment is instituted at once, the coma deepens and the patient collapses and dies. This type is practically always caused by the e.a. form and causes over sixty (60) per cent of the malarial deaths.

Hemoglobinuric Fever: This form nearly always occurs in cases of repeated attacks and is ushered in by a severe chill and high temperature, with jaundice, enlargement of the liver and spleen. The urine at first is a copious red and later becomes almost black and contains albumin, broken down red cells and casts. The amount passed is an important prognostic point and if the output falls below 200 cc. per day anuria is very likely to develop. There is marked thirst and the patient appears greatly depressed. In some cases the attack may clear up in 24 hours, a second chill is accompanied by a return of hemoglobinuria, and others lead to urinary suppression, coma and death. Deeks & James, who have done perhaps the most work in hemoglobinuria, found in 260 cases, e.a. in 87.2 and tertian in 12.6. It would appear that there is some definite kidney damage as relapses are not infrequent and that the e.a. does more damage to the brain, kidney, liver and spleen than other forms of malaria. The mortality is about 20%. Jaundice usually remains for some time following the attack.

Liver and Spleen: The cachexia is an interesting and important sequela. It is not that it occurs frequently but that when it does occur it is grave and important and again in this we find that the e.a. is almost always the type present. It is more common in the Indian and white race than in the negro and may resemble other diseases. The liver of a patient suffering from an old malaria in any variety is enlarged unless either cirrhosis or atrophy is present, but the spleen is the interesting organ in this sequela. Its size varies from that of being palpable to extending from the umbilicus to the ilium and sometimes occupying almost the entire abdomen. I have seen many of these large spleens in the tropics, the

spleen is large, hard and pigment laden, and at times the adhesions are numerous and difficult. The spleen appear to be a reservoir for harboring the parasites which permits the continuance of the disease and resists all specific treatment and necessitates splenectomy. I shall not take your time about jaundice and anemia that is present, the mortality of this class is about 10 to 12%.

Treatment: For over 400 years quinine has been used in and known as a specific in malaria, but it must be remembered that in giving quinine by mouth in, say 0.3 gm., that about only one fifth (1/5) of that amount is absorbed. The chief difficulty to quinine is the length of time the drug must be taken and its many side actions. In some parts of the tropics quinine by mouth is rarely given, the intravenous method was the one of choice, until the appearance of atabrine. This undoubtedly is the most efficient method in the treatment of the cerebral form, 0.5 gm. of quinine dihydrochloride in 10 cc. of water makes a very balanced dose for intravenous use and if given warm and very slowly with the patient in a prone position outside of a slight flushing of the face and tingling of the skin, no other reaction is noted. Atabrine is also used intravenously and in this form of malaria, has proven of great value and many men in the tropics use it in preference to quinine in cerebral malaria. I have given hundreds of intravenous quinine and have never had a serious reaction. Quinine intramuscularly is occasionally given in the tropics, but great care must be used to maintain strict asepsis as a quinine slough is about as hard to cure as an X-ray burn.

Treatment of Hemoglobinuria: It is the general opinion that quinine should not be given. Deeks & James have shown that in many cases quinine has undoubtedly increased the hematuria, and several sudden deaths have been reported in hemoglobinuria in which quinine was given, and in the tropics it rarely is given in this condition. Dehydration and urinary suppression must be carefully watched for, and if the urinary output begins to fall daily the necessary measures must be instituted at once to increase kidney activity. This is best accomplished by intravenous saline. It is here that atabrine has proven of so much value.

With the large malarial spleen, medical treatment has proven of little, if any, value in reducing the size. In the tropics splenectomy is done before pressure symptoms begin to develop, if done after these symptoms appear, too much damage has already

DR. E. C. ELLETT

DR. R. O. RYCHENER

Ophthalmology

1720 Exchange Building

Memphis, Tenn.

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been done and the mortality is high. These large spleen cases are put to bed and iron, arsenic and blood given before operation. Splenectomy at times can be very difficult or easy, depending upon the amount of adhesions that are present. These patients seem to do well after splenectomy.

In recent years we have heard much of Atabrine and it is used very extensively in the tropics by Hopps², Phelps³, Manson⁴, Neuman⁵, and many others and I believe is replacing quinine. It possesses many distinct advantages over quinine, it has none of the unpleasant side actions that quinine has, its treatment is short, simple and effective. In hemoglobinuria, atabrine saves lives, it can be given during pregnancy without fear of miscarriage, for it is well tolerated. I have used atabrine in a large number of cases (these cases are to be reported in detail later) and have never yet seen a single serious reaction from its use and atabrine frees the blood of parasites much quicker than does quinine. When indicated atabrine can be given intravenously, as in cerebral form. In the treatment of malaria I prefer atabrine.

SUMMARY

1. Acute Malaria, except for the estivo-autumnal variety, has a tendency to get well and has a very small death rate.

2. Estivo-autumnal malaria can be, and frequently is, a very serious condition, it has a tendency to run into a chronic form and its complications carry a large death rate, its incubation period is shorter than the other varieties.

3. Cerebral malaria, hemoglobinuria, hepatic and splenic enlargement is in the vast majority of all cases caused by the e.a. type.

4. Malaria frequently makes its appearance following operations, obstetrical delivery, shock, etc.

5. Conjunctival jaundice is a diagnostic symptom in chronic malaria.

6. Intravenous quinine is a safe and effective treatment.

7. Atabrine is superior to quinine.

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Jackson, Mississippi

Dr. Walter C. Alvarez



Born in San Francisco in 1884 and received the degree of M.D. in 1905 from Cooper Medical College, now the Medical Department of Stanford University.

He was in general practice in Mexico from 1907 to 1909, and from 1910 to 1926, practiced internal medicine in San Francisco. When he left there to go to the Mayo Clinic, he was Associate Professor of Research Medicine in the University of California. He has been at the Mayo Clinic since February, 1926, and is now Professor of Medicine in the Graduate Medical School at the University of Minnesota. He is head of a section in the Division of Medicine at the Mayo Clinic.

Doctor Alvarez is a member of our twenty medical societies, including the Association of American Physicians, the American Physiological Society, the Society for Experimental Biology and Medicine, the American Society for Clinical Investigation, and the Central Interurban Clinical Club. He is a member, also, of several anthropological and archaeological societies.

He has published over two hundred and twenty-five papers, mainly in the field of gastro-enterology, and many in the field of gastro-intestinal physiology. He has published two books, and is responsible for chapters on Diseases of the Digestive Tract in Oxford Medicine and other large systems of medicine.

He is past president of the American Gastro-Enterological Association and is on the Editorial Board of a number of medicine journals.

His hobbies are mountain climbing, photography, archaeology, and medical history. He has a large library, containing most of the earliest medical books and magazines published in the United States.

His record speaks so loud we can not say anything further about him.—Ed.

Dr. David L. Farley



Dr. David L. Farley, of Philadelphia. He is to appear on the program of the Mid-South in February. His subject is "Fever of Obscure Origin." We are interested in Dr. Farley for two reasons. He is an outstanding authority on the subject on which he is to talk, on any one he proposes to discuss and then he is a native of Mississippi. He was born in DeSoto County in 1890. He graduated from the University of Philadelphia in 1914 where he has remained since except while he was in the army during the World War. He specializes in Internal Medicine, is Chief of Medical Service A. Pennsylvania Hospital, the oldest hospital in North America having been founded in 1754 by Benjamin Franklin. He is Assistant Professor of Medicine at the University of Pennsylvania. He is co-author with Dr. O. H. Pepper of "Hematological Diagnosis" published by W. B. Saunders and Company. He has written a multiplied number of articles. Dr. Farley, we are mighty glad you are coming.

To the Members of the Medical Societies in Mississippi

My Dear Doctors:

The membership drive is getting off to a good start! The reports that are coming in, indicate that the membership committees are at work. One of the larger societies has already reported an increase of thirty-three members. How about your society? Have your membership committees been appointed? Are they active. Let us all get busy! Let us put this drive over for new members in real earnest. Enlist the services of every member of your society to go out after the eligible Doctors who are not already members of your society.

Personal work is the best of all. The personal appeal to the doctor who is eligible, by some of the officers and members of the Medical Societies will practically always result in the doctor giving you his application.

Remember that December is the best month to pay dues for 1936. I would suggest and urge that you make your drive include every member as well as the

non-member to pay his due for 1936 in December. He can do it then as good as any time, and if it is delayed, there is always danger of a controversy over the Medico-Legal question. Let us all pay our dues in December. If we will do this, it will be one of the greatest steps that organization can put over.

I desire to take this opportunity to extend to you my sincere thanks for your hearty co-operation. I hope that you will also permit me at this time to extend to you and through you to the members of your society, the Season's Holiday Greetings. I trust that your happiness may be the greatest in the history of your life in 1936.

Please give me a report on the progress you are making in your society right away. If I can assist you in any way, please call on me.

Faithfully yours,

HARVEY F. GARRISON,
President-Elect,
Mississippi State Medical Ass'n.

Mississippi Hospitals

CALENDAR OF STAFF MEETINGS

ANDERSON INFIRMARY: Second Friday, each month, 6:00 p. m.

BILOXI HOSPITAL: First Friday, each month, 7:30 p. m.

CLARKSDALE HOSPITAL: Second Wednesday, each month, 1:30 p. m.

GEORGE C. HIXON MEMORIAL HOSPITAL: First Monday, each month, 7:30 p. m.

JACKSON COUNTY HOSPITAL: Second Thursday, each month except July and August, 7:00 p. m.

MERIDIAN SANITARIUM: Second Thursday, each month, 6:30 p. m.

MISSISSIPPI BAPTIST HOSPITAL: Third Tuesday, each month, 6:30 p. m.

NORTHEAST MISSISSIPPI HOSPITAL: First Monday, each month, 7:30 p. m.

U. S. VETERANS HOSPITAL, Gulfport: Every Monday, Tuesday, Wednesday and Thursday, 10:45 a. m.

VICKSBURG INFIRMARY: First Wednesday, each month, 6:30 p. m.

VICKSBURG SANITARIUM: Tenth or week of the tenth, each month, 6:30 p. m.

WINONA INFIRMARY: First Thursday, each month, 7:30 p. m.

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DR. N. B. BURCH, Eye, Ear, Nose and Throat

DR. RAYMOND C. TURK, Dentist

A. W. SCHEER, X-ray Technician

MISS ETTA WADE, Clinical Pathologist

Tennessee State Dietetic Association To Meet With Mid-South

Dr. W. H. Anderson, Editor,
"The Mississippi Doctor"
Booneville, Mississippi.

My dear doctor,

At the suggestion of Dr. Cooper, Secretary of the Mid-South Post Graduate Medical Assembly I am writing to ask your cooperation in making known the acceptance of the Tennessee State Dietetic Association the invitation extended by the Mid-South to meet with them during their annual meeting in Memphis next February.

The Tennessee Dietetic Association is a young organization, but is made up of dietitians, nutritionists and other food experts, and has for the past year been affiliated with the American Dietetic Association, which organization as you doubtless know, is to the Dietetic profession what the American Medical Association is to the Medical profession. Each and every member of the State Association is a member of the National Organization, with the same standards for training, education, etc.

As the president of the Tennessee Dietetic Association I am most anxious to make our meeting a success and to show the physicians, hospital superintendents, educators and others who are interested in raising the standards of food service in the South, what we, as members of the profession, are doing.

We propose to have a fine program, with papers by physicians on various disturbances for which dietary management is obligatory, we hope to number several of the Mid-South Post Graduate Medical Assembly speakers among them. We will also have some interesting talks on "Relief" work from a feeding standpoint, "low cost diets, etc." Our exhibit on Fads and False Advertising In Foods, Diets, etc., is well worth examining, especially in the South, I am sure all must agree that we are getting some very pernicious advice along these lines in papers, magazines and over the radio, we hope to illustrate some of this in our exhibit.

I will appreciate it greatly if you will mention our meeting along with that of the Mid-South Medical Assembly, as dietitians and nutritionists we are doing our utmost to cooperate with the physicians with whom we work, as well as the hospital superintendents on whose staff many of us are endeavoring to do our part.

Sincerely yours,

FAIRFAX T. PROUDFIT,

President Tennessee Dietetic Association,
(Instructor in Nutrition and Diet Therapy,
University of Tennessee College of
Medicine, College of Dentistry and
Schools of Nursing and Dental Hygiene)

Appreciates Obstetric Lectures

The Post Graduate Obstetric Class, composed of the doctors of Prentiss County, and additional ones from Tishomingo, Lee and Tippah, assembled at the North East Mississippi Hospital, at Booneville, Miss., for the last lecture of the course desire to express our very sincere appreciation for the wonderful series of lectures we have received from Dr. Maxwell E. Lapham. These lectures have been timely and practical and very instructive and helpful in every way.

We feel that this is the best possible plan that can be used to help the busy practitioner in the small town and rural communities, many of whom are unable to leave their practice and go away to take post-graduate work, having no one to do it for them while they are gone. Dr. Lapham not only covered the practical points in the obstetric field in his course of lectures, but we were greatly benefitted by his counsel and advice in many of our private cases. We can not imagine any one better suited for this course of lectures than he. We thank him very graciously for his untiring efforts in helping us every way possible and we also want to thank Dr. Underwood, The State Board of Health, The State Association, Tulane University and The Commonwealth Foundation for making this course available to us. We sincerely hope that we may have the benefit of another course of lectures on some other subject, as Pediatrics, at an early date. We believe it is of the greatest importance to bring post graduate instruction out to the busy practitioner.

Respectfully submitted,

POST GRADUATE CLASS OF PRENTISS
AND ADJOINING COUNTIES

Booneville, Miss.

You are Cordially Invited to Attend the
Quarterly Meeting of the
North Mississippi Medical
Society

at
Oxford, Mississippi
Friday, October 18, 1935
Graduate Bulding
University of Mississippi
2:00 p. m.

PROGRAM

Invocation Rev. John Stephens
Minutes of Preceeding Meeting and Other Business.
"The Management of the Patient with Circulatory
Failure" Dr. Otis S. Warr, Memphis
"Some Aids in Kidney Disease"
..... Dr. Leon S. Lippincott, Vicksburg
"Football Injuries of the Knee"
..... Dr. Willis Campbell, Memphis
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Tuberculosis Abstracts

Tuberculin test surveys of school children conducted in numerous communities have directed attention to the problem of discovering tuberculosis among teachers who may be spreading infection to the children. An increasing number of school boards are demanding proof from the teacher that she is tuberculosis free. Since this practice promises to become more widespread the physician should know about the procedures that are being tried and be prepared to participate with school boards in formulating the best plan. The method employed in Minneapolis is described in a recent article by Harrington, Myers and Levine in the Journal of the American Medical Association, brief abstracts of which are here submitted.

TUBERCULOSIS AMONG SCHOOL EMPLOYEES

Some states have laws providing for the physical examination of teachers and the exclusion of those applicants who have tuberculosis. The Attorney General of Minnesota has ruled that "the skin test for teachers is reasonable exercise of the police powers of the school boards if required for the purpose of safeguarding the pupils of public schools."

Previously the author demonstrated that children taught by teachers with open tuberculosis showed a much higher incidence of positive tuberculin reactions than those taught by other teachers. Ickert found that 93.5 per cent of the children taught by tuberculous teachers reacted to tuberculin as compared with about 25 per cent reactors in a control group. Frost reported 71 per cent reactions among pupils of a tuberculous teacher whereas only 11.4 per cent of children in adjacent districts taught by non-tuberculous teachers were positive to the test.

Preparing the Way

The first step taken in Minneapolis to bring about a survey of school teachers and employees was to arouse the school board to the need of requiring a health certificate of all teachers. At that time, October, 1921, the value of the tuberculin test and the X-ray was not thoroughly appreciated and therefore certificates in some instances seemed almost worthless. More publicity and education was patiently carried on to prevail upon the board to demand from the teacher more specific evidence of freedom from tuberculosis.

The problem was discussed with the medical society which after careful deliberation, supported the Director of Hygiene of the Minneapolis school board in his recommendation to the board that all teachers and employees who come in contact with school children submit to a Mantoux skin test, the expense of the test to be borne by the board.

Since there was some objection to the tuberculin test based on misunderstanding, the order adopted by the board was modified a few months later to permit the teacher to submit an X-ray film of the chest in lieu of the skin test. Protests of obstructionists continued and therefore it was considered wise to postpone the execution of the order to December 31, 1933. New objections arose but the authorities proceeded with the administration of tuberculin tests and the preparation of X-ray films of the positive reactors. False and absurd rumors which tended to disparage the procedure circulated freely, but tactful

execution of the procedure overcame most of the objection and in a short time a high percentage of teachers submitted to the test.

Procedure

A physician and a nurse visited each school building and applied the test to all employees who wished it. Arrangements had been made with the local radiologic society for the taking of X-ray films of the chests of all teachers and others concerned who were authorized by the school board to have such films made. Teachers who declined the skin test, as well as those whose tuberculin tests proved positive, were issued authorization slips for the making of the X-ray films. The films when made were forwarded to the hygiene department for corroboration.

An option on this procedure was offered, permitting teachers to have the tuberculin test applied by their private physicians, a report of the result, certified over the physician's signature, to be sent to the director of hygiene. Further, the school personnel was permitted to submit X-ray films of the chest taken by physicians of their own choice. These options were exercised at the expense of the teacher. All other costs were borne by the school board.

Results

Altogether 2,190 persons were tested with tuberculin and 1,384 elected an option. A single dose of 0.1 mg. of tuberculin was used. Retesting of negative reactors could not be done because it was necessary to simplify the procedure.

Of those tested 49 percent reacted. The incidence of reactors varied curiously in different schools. In two schools in which there were less than five teachers, all were negative. The lowest number of reactors in the larger schools was 10 per cent and the highest was 82 per cent. As a group, school nurses showed the highest incidence, 91 per cent. Of the 2,466 who were X-rayed 59 per cent showed no evidence of disease.

All films were interpreted by one of the authors who classified them as follows:

No evidence of disease	1,453
Scoliosis	2
Possible substernal thyroid	2
Change in cardiac outline	44
Evidence of increased bronchovascular markings	175
Evidence of fibrinous pleurisy	66
Evidence of first infection type and pleurisy	29
Questionable evidence of first infection type of	

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tuberculosis	85
Evidence of first infection type of tuberculosis	532
Evidence of parenchymal lesions	78

The method employed is regarded by the authors merely as a means of screening out cases who should have a thorough examination for tuberculosis. The 78 persons with parenchymal lesions as well as those with changes in cardiac outline or other significant findings were all advised to consult the physician for further examination and final diagnosis. To keep a check on those with parenchymal lesions periodic roentgenographic examinations were requested at stated intervals, the films to be submitted to the Director of Hygiene of the school board. There was no interference with practitioners of medicine. The school board should not treat disease but it is definitely obligated to make sure that their employees do not disseminate tubercle bacilli in line of duty. Great care must be exercised by the board not to be too drastic in dealing with those who have parenchymal shadows. Every finding should be kept strictly confidential; even the tuberculin test should be applied on a part of the body where it is not visible to other teachers or pupils and the report on the test should be made only to the individual tested.

The costs of the survey are important to consider. All but 102 of the tuberculin tests were paid for by the school board. Of the 2,476 X-ray films 238 were not paid for by the school board. The total expense to the school board was \$5,525.50.

Advantage of Survey

In the summary of the article the chief advantages of the survey are stated as follows:

"First, disease may be detected before it has produced significant symptoms and when it can be treated successfully in a short time, thus saving the teacher a long period of inactivity from work. Such cases, by adequate treatment, may be prevented from breaking down so as to be a menace to the children and other teachers. Thus, the environment so far as tuberculosis is concerned becomes much safer from the standpoint both of the teacher and of the child. Second, compulsory examinations often lead to investigation on the part of the teacher so that she becomes informed concerning the contagious nature of tuberculosis. Many such teachers become enthusiastic workers in the tuberculosis control program. This should lead ultimately to the enlistment and the support of great educational associations, which will be a valuable acquisition to the forces against tuberculosis.

Tuberculosis Among Employees of the Minneapolis Schools, F. E. Harrington, M.D., J. A. Myers, M.D., and Ida Levine, M.D., *Journal of the Amer. Med. Ass'n.*, May 25, 1935.

Public Health News

Up to the present time, the physicians of 33 counties in Mississippi have had the opportunity to attend the obstetrical lectures given by Dr. Maxwell E. Lapham, of Philadelphia, Pa. Many nice letters praising the course and asking for a continuation of this plan have been received.

On October 25 and 26, a Health Education Conference for teachers and parents was conducted in McComb, Mississippi by Miss Cara Harris, of the University of Tennessee. This program was sponsored by the Pike County Health Department and financed by the Commonwealth Fund.

At the invitation of Dr. Philip Barbour, of the League of Christian Physicians, Dr. Underwood spoke at the Warren Memorial Church, Louisville, Kentucky, on September 29. This is a meeting preliminary to the Kentucky State Medical Association which begins September 30. Dr. Underwood remained for the meeting of the State Medical Association.

DEATHS OF MISSISSIPPI PHYSICIANS

Dr. B. F. Hand, Waynesboro, September.
 Dr. T. E. Ross, Sr., Hattiesburg, September.
 Dr. L. S. Pearce, Falkner, September.
 Dr. Julius Crisler, Jackson, September.
 Dr. T. D. Hall, Saulsbury, Tenn., (formerly of Raymond).
 Dr. James H. Kennedy, Pinola, October.
 Dr. W. C. Caraway, Forest, October.

Dr. Felix J. Underwood has been reappointed to membership on the State Board of Examiners of Nurses for five years. He serves as President of the Board. Other members are: Miss Kate Lou Lord, R.N., Executive Secretary, Hattiesburg; Miss Mary E. Dorsey, R. N., Greenville; Miss Mary H. Trigg, R.N., Greenwood; Mrs. Alice Finley, R. N., Tupelo.

Central Medical Society Annual Meeting

Dr. W. H. Anderson, Editor,
 Booneville, Miss.

Dear Doctor:

We plan to have a big meeting Thursday, December 5th for our annual meeting and would like for you to insert a notice if possible in *The Mississippi Doctor*.

Dr. Jas. S. McLester, President of A. M. A. will be the principal speaker as well as Dr. Paul Gamble, Greenville and J. Gould Gardner, of Columbia. We plan to have open House at the Robert E. Lee Hotel from 5 to 6, following this the Banquet and then the excellent program to follow the banquet.

I am writing the Secretary of each Society in the State and desire at least an official representative from every Society. If you can get this in the *Journal* for publication we would be indebted to you.

Very truly yours,

L. W. LONG, Secretary

This is a fine move. It will be good to be there.—Ed.

J. M. DORRIS, M.D., F.A.C.S.
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Traumatic Neurosurgery
 402 Physicians and Surgeons Bldg.
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THE NEW FENWICK SANITARIUM

Nervous and Mild Mental Disorders and Drug and Liquor Addictions

COVINGTON, LOUISIANA

OVER FORTY-THREE YEARS OF SUCCESSFUL OPERATION

Doctor, we wish to call your attention to the merits and claims of the above named Institution, especially for Nervous and Mild Mental Disorders—for Drug and Liquor Addictions and Infirmities of Old Age.

This Institution is true to organized medicine and its principles.

It is registered by the American Medical Association.

It is a member of the American Hospital Association.

It is a member of the State Hospital Association.

It is a member of the National Association of Private Psychiatric Hospitals.

The staff of physicians of this Institution are all members or Fellows of the American Medical Association and its subordinate societies. They are physicians, who after having graduated in medicine, have had the best of medical training in the large graduate schools of medicine and hospitals of the East and are especially prepared for their respective specialties. These physicians give their entire time to the patients in the sanitarium doing no outside work.

Its clinical and pathological laboratory is complete and under the supervision of two of the best pathologists in New Orleans.

Correct diagnosis is the key note for the New Fenwick Sanitarium—no half way, and haphazard diagnosis is made here.

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The latest and best approved methods of therapy are carried out here at all times.

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The New Fenwick Sanitarium is noted for the individual attention given each patient among pleasant and home-like environments.

This Institution prides itself on the character of nourishment and diet furnished the patients, not only at meal time but otherwise.

For forty-three years it has cared for and brought back to health Mental and Nervous patients, many cases being brought to us from other Institutions.

In the last forty-three years, it has studied and treated many Liquor and Drug Addicts.

The buildings of the New Fenwick Sanitarium are new and constructed especially for the class of patients it treats. They are built of pressed brick, steel and concrete, with every comfort, electric fans, steam heat, etc. All rooms are outside rooms with good ventilation and attractively furnished. The grounds are well kept and inviting with flowers, shrubs, shade trees and rest benches.

This Institution is patronized by the better class of people. Its services are offered to the discriminating physicians for the type of patients named above as a high class Institution in every sense and meaning of the word.

It is located in Covington, Louisiana, a section so noted for its health qualities, and is easily accessible by concrete highways, railroads and water routes. It is only one hour and a half by automobile from the center of New Orleans.

THE MISSISSIPPI DOCTOR

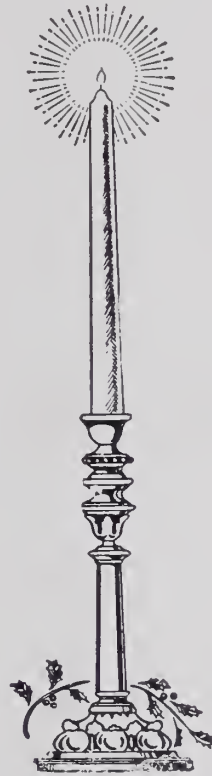
OFFICIAL ORGAN

MID-SOUTH POST GRADUATE MEDICAL ASSEMBLY

VOL. 13.

BOONEVILLE, MISSISSIPPI, DECEMBER, 1935

NO. 7



"Peace on Earth
Good Will to Men."

THE NEW YORK
ACADEMY OF MEDICINE

NOV 25 1938

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If this tired, worried, over-worked mother were using Pablum for her babies' cereal feedings, she could have slept that extra much-needed hour instead of losing her temper while her children clamor for breakfast. For she can prepare Pablum in an instant, directly in the cereal bowl, simply by adding water or milk of any temperature—salt, cream and sugar for the older child and herself.

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This is especially true in the case of the nursing mother whose supply and quality of breast milk are affected by emotional shocks resulting often in agalactia and sometimes giving rise in the baby to diarrhea, colic, and even convulsions. Furthermore, the mother's emotional stress brings about a train of behavior on her part which is reflected in the child's psychologic reactions so that a vicious circle of bad habit formation is set up.

From this angle, the recent introduction of the pre-cooked form of Mead's Cereal, known as Pablum, assumes new importance in the doctor's

psychological handling of both mother and child, quite aside from its nutritional value.*

Because Pablum can be prepared in a minute, the mother can sleep the extra hour she would otherwise be compelled to spend in a hot kitchen cooking cereal. Added rest means better poise, so that petty annoyances do not bring jaded nerves. Prompt feedings prevent many childhood tantrums, and a satisfied baby usually eats better and enjoys better digestion and growth.

*Like Mead's Cereal, Pablum represents a great advance among cereals in that it is richer in a wider variety of minerals (chiefly calcium, phosphorus, iron, and copper), contains vitamins A, B, E, and G, is base-forming and is non-irritating. Added to these special features, it is adequate in protein, fat, carbohydrates, and calories. Pablum consists of wheatmeal, oatmeal, cornmeal, wheat embryo, yeast, alfalfa leaf, and beef bone.

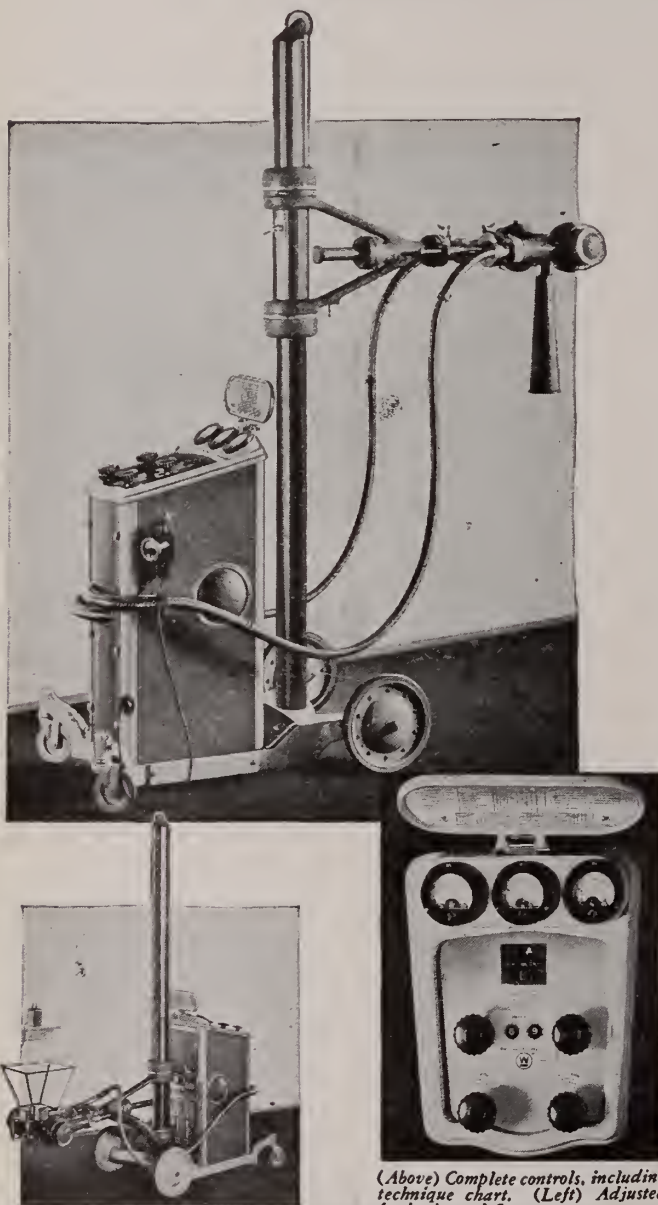
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has been done to make this
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_____.M.D.

The Mississippi Doctor

The Journal with a vision, the delivery of modern medicine to the masses at less cost to the individual and more profit to the practitioner. The champion of the small hospital, the hub around which this service must be built.

—Subscription Price, One Dollar A Year—

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MRS. W. H. ANDERSON, Assistant Editor

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Entered as second-class matter, January 18, 1926,
 at the post-office at Booneville, Miss., under
 the Act of March 3, 1879.

EDITORIALS

Speaking of benefactors to human society one of the most courageous is the doctor who had the faith and the will to construct a private hospital and to use often times the last dollar of his earnings to keep it going. He rendered a double service. He has been a citizen worthwhile. Praise, glory, and honor are due him. He has carried a load for his town and his community that was really too heavy. It was not and is not always duly appreciated. Next to the individual the stock companies, a few men who put their money into a hospital knowing the risk and not expecting even the principal back in some instances and not more than a nominal interest at any time, are due much appreciation from the citizens of their town and county. And then the churches in the tri-states that have put money into a state hospital and then in one for the three states, are due service stripes. The public does not always appreciate the service rendered by the hospital. They think it is high. But in comparison with hotel rates the highest ones must be considered very modest.

The regular staff meeting of the Northeast Mississippi Hospital was held in the dining room of the hospital on Monday night, November 2. A delicious oyster supper was served with Drs. Caldwell and Christian as hosts.

Following the supper the meeting was very ably presided over by Dr. Caldwell, the new staff president. There were eight members present. The program followed the business session with Dr. Davis presenting a very interesting case report. Following the custom of one member giving a short biography of some great medical man, Dr. Caldwell gave a brief sketch of the life of Dr. W. V. Davis. Tribute was paid to this great doctor by several of the members present. Dr. Davis has been in general practice in Northeast Mississippi more than 43 years and has done a great service to this section of our state.

Our next regular meeting will be held at the hospital on January the 6th of next year. Drs. Pharr, Strange and Christian will have part on the program.

Mrs. Karenza Gilfoy has been elected Superintendent of the Baptist Hospital at Jackson to succeed Dr. Wayne Alliston. Dr. Alliston has served well as superintendent of this splendid institution. Mrs. Gilfoy will go forward in a successful manner no doubt. She is broadly educated, cultured and refined, sympathetic, and resourceful. She has good business judgment, and a personality that compels respect and warrants admiration. In the hands of Mrs. Gilfoy the hospital is safe in service and assured of progress.

You should buy and read Dr. Brengle's book. This is a step in the right direction. For the general practitioner to begin to record his clinical knowledge and his therapeutic observations marks a big step forward. The history of the case and the clinical symptoms are of even more importance than the laboratory findings and theories that some times created for the benefit of the doctor rather than to really search for medical truth. The general practitioner has a duty to perform. Dr. Brengle has taken an important step.

December the seventeenth is the time for our fourth and last meeting of the year. Tupelo is the place. The T. K. E. Drug Company will do the entertaining. The program is fine. You can not afford to miss this meeting. Dr. Livermore, of Memphis, is the guest speaker. He is an authority on his subject. It will always do you good to hear his scholarly discourse, to breathe the atmosphere of his culture, and to feel the warmth of his refined personality. The ladies are asked to come along and organize an auxiliary for this district. Be loyal to your local society. Give it a day. Give it your dues. Help and be helped.

The Mid-South Post Graduate Medical Assembly is still growing in size and in the magnitude of its service. No one man deserves more praise for this than Dr. Gilbert Levy. He has charge of the exhibitors' space. He is increasing the number each year. The exhibitors help in a big way to finance the association and they talk it up, they bring many doctors to the meeting. Dr. Gilbert is always on the job. He is cooperative, he is the essence of courtesy, and the embodiment of efficiency.

Everything else being equal will you not trade with the firms who advertise in our journal? In this way you can help materially to finance the journal and make it a lot better.

In our January issue The Mississippi Doctor becomes the official organ of the Mississippi State Medical Association. Its greatest desire is to be helpful to the association, to Mississippi and her medical problems. We want your help and your cooperation.

When you read in the next issue the names of the men who have written for The Mississippi Doctor this year, you will not wonder why so many doctors say it is the most helpful journal that comes to their desk.

You will note the announcement of the next meeting of the Mid-South Post Graduate Medical Assembly. It is one of the very best associations in the United States. Make your plans to be there.

It makes no difference what time of the year you write to some companies, the reply comes that their advertising budget has already been made out for the year.

It seems that the Baptist Hospital at Memphis has lead in the amount of charity work in the Mid-South leaving out the municipal institutions. This is a fine record.

Don't miss getting a copy of the book on the "foot". Know the human foot in all of its walks of life and you will relieve much suffering, increase efficiency, and prevent a mass of surgery.

If you will trade with the firms who advertise in The Mississippi Doctor, other things being equal, you can help us materially in financing the journal with a mission.

There is such a thing as our state becoming over stocked with hospitals. Might think along this line.

We note with interest the Mississippi physicians who have been selected for post-graduate work by the Commonwealth Fund of New York.

Those selected will have three months' study at Tulane, the first eight listed below to begin work January 6, and the last on February 17.

They are: Dr. A. C. Covington, Marks; Dr. J. James, Ackerman; Dr. J. L. Nichols, Alligator; Dr. S. L. Pharr, Booneville; Dr. T. M. Riddell, Swiftown; Dr. W. E. Seale, Crenshaw; Dr. A. H. Smith, Sumner; Dr. E. B. Young, Vardaman.

Dr. W. M. Coursey, Raleigh; Dr. C. W. Emerson, Hernado; Dr. O. G. Eubanks, Crystal Springs; Dr. A. L. Gregory, Saltillo; Dr. J. J. Kazar, Tchula; Dr. R. B. Ray, Kosciusko; Dr. C. M. Speck, New Albany; Dr. V. L. Terrell, Columbia.

We greatly appreciate the cooperation of the Baptist Hospital of Jackson, Miss., in placing a half page advertisement with us. This hospital is steadily growing in favor with the profession and is extending its field of service.

We deeply regret that we were unable to attend the annual meeting at Vicksburg on December 10. The man who misses this meeting, is a great loser in pleasure and profit.

The Mississippi Doctor plans to put out the regular big issue of between four and five thousand copies boosting the Mid-South in February.

The New Orleans Medical and Surgical Journal is a good one and many doctors in Mississippi will continue to take it.

Dr. Jim Rice, of Natchez, will be a prominent man in the state senate in the new set up.

An up-to-date hundred-bed charity hospital at Jackson as a clearing house for the others will be all right.

We greatly appreciate the half page ad from the Baptist Hospital at Jackson. It is a popular institution and is doing a fine service.

It costs plenty of money to build a hospital and equip it as it should be at this time.

The Mississippi Doctor has been very liberal with the hospital association of the State of Mississippi. The hospitals should now help the journal.

Doctors can help The Journal by placing a courtesy card with us.

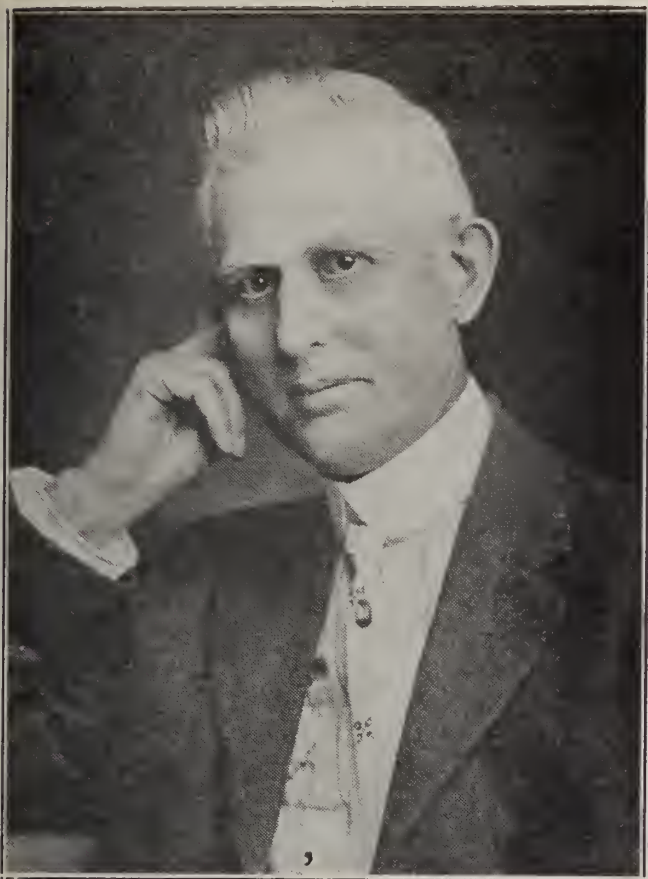
Congratulations to Mr. Lorenz for the big meeting of The Southern Medical Association at Saint Louis.

DR. SEALE HARRIS

Gastro-intestinal and Nutritional Diseases
Diagnostician

2234 Highland Avenue
Birmingham, Alabama

Dr. S. R. Deanes



This is a likeness of our president, S. R. Deanes, of West Point, who has served us ably during this year. He could be truly called dean of our society. He is broadly educated and versatile, one of the ablest diagnosticians in this state. He has been a pioneer in the profession. Multiplied years and much happiness to him is our sincere wish.

Book Review

If you are looking for a little book that is concise, up-to-date and reliable for use in most of the everyday cases encountered by the general practitioner no better one book has come to us recently than "MODERN OFFICE AND GENERAL PRACTICE," written by a general practitioner who has spent twenty years of his life doing appendectomies and high forceps deliveries far from even a colleague and often under squalid conditions. His name is Deane R. Brengle, of Detroit, Mich., and his introductory opens with an apologetic explanation for his violation, as a general practitioner, of medical ethics in writing a medical book but his service is genuine. "MODERN OFFICE AND GENERAL PRACTICE" is compiled much like a book of reference with an index. It takes up a disease in its alphabetical order, discussing briefly its etiology, symptoms and treatment, as practised by a physician engaged in serving the cosmopolitan practice of a large city.

It is a little book worthy of the use of every general practitioner.

Price \$3.25, published by Southern Publishers, Inc., Kingsport, Tenn.

Dr. T. P. Sparks, of Vicksburg, was elected president of the Issaquena-Sharkey-Warren Counties Medical Society at the annual meeting there. Other officers are: Vice presidents, Issaquena County, Dr. T. W. Huey; Sharkey County, Dr. E. B. Stribling, and G. S. Jarrett; secretary, Dr. Leon S. Lippincott.

Send your order at once for a copy of the "Soul of the Surgeon." You will want one for yourself and for a friend or two for Xmas. The Soul of the Surgeon by Dr. Rudolph Matas, New Orleans. Price sixty cents and eighty-five cents.

The Baptist Hospital in Memphis led the South in the amount of charity work outside of hospitals receiving municipal aid. This is a good showing.

Let us develop Mississippi Medicine for Mississippians.

Notice, Doctors' Wives

At the meeting this month of the Northeast Mississippi Thirteen County Medical Society, in Tupelo, every doctor's wife is urged to accompany her husband. At this time the wives will organize their auxiliary. Come to the general meeting of the doctors and you will be directed to the auxiliary meeting-place nearby.

MRS. W. H. ANDERSON, Counsitor

Book Review

"THE HUMAN FOOT." Upon first picking up this book, you are struck with interest that a 321 page book can be confined in subject matter alone to the human foot, but turn its pages and your next thought is that it is a timely book indeed and everybody, including the laity, should want to read "THE HUMAN FOOT," by Dr. Dudley J. Morton. The first part of the book is a full review, frequently illustrated, of the man's foot and his posture. The second part deals with the physiology of the foot. The third part, functional disorders of the foot, is especially to the general practitioner. Dr. Morton emphasizes that the distribution of weight, on the foot is of major importance, while many other disorders can be traced to footwear, inherited bone and muscular factors, occupation and economic stress. He encourages the use of X-ray in discerning disorders. His personal contribution is what is called Morton's Metatarsalgia, where the first metatarsal bone is shorter than the second or is hypermobile, characterized by a sharp pain shooting to the fourth toe, the second or the third, but never the first or the fifth.

Dr. Morton's approach to foot study is new, and the book might be considered a valuable addition to the office book case.

Price \$3.00. Published by the Columbia University Press.

JOHN W. RAGSDALE, M.D.

CHESTER D. ALLEN, M.D.

327 Medical Arts Bldg.

Memphis, Tenn.

Urology and Urological Surgery

Some Aids In Kidney Disease*

LEON S. LIPPINCOTT, M.D.
Vicksburg, Miss.

The term "nephritis," as generally used, includes a number of degenerative and inflammatory conditions of the kidneys. Through the years, many classifications of nephritis have been proposed, some based on clinical observations and some on the microscopic structure of the kidneys removed at autopsy. Because of lack of correlation of the two, never yet has a classification appeared which is entirely satisfactory to both clinician and pathologist.

In clinical work, four types of nephritis are generally recognized: acute nephritis, chronic diffuse (parenchymatous) nephritis, chronic interstitial nephritis, which generally is made to include the arterio-sclerotic type, and pyelonephritis.

In acute nephritis, the injury may be principally in the glomeruli, as in scarlet fever, or in the tubules, as in mercuric chloride poisoning. In practice, it may be impossible clinically to differentiate the two.

In chronic nephritis, lesions now of the glomeruli, now of the tubules, now of the interstitial tissues, may dominate the picture both clinically and anatomically. Therefore, in a sense, except at the very outset, nephritis is usually diffuse, and all parts of the kidney more or less involved in any case of some duration.

Pyelonephritis is due to an upward extension of an inflammatory process already established in the pelvis of the kidney.

There is some tendency to discard the anatomic classification and to follow the suggestion of Christian of Boston to divide nephritis into acute and chronic, with subdivisions of the chronic form based upon the presence or absence of accompanying edema or hypertension.

A more recently adopted term for certain degenerative conditions of the kidneys is nephrosis, of which there are several types. It is especially characterized by lesions of the kidney tubules.

As sometimes mistaken for nephritis, it may be well to mention here congestion or hyperemia of the kidneys. Acute congestion regularly occurs as an early stage of acute nephritis, but more frequently independently as the result of the temporary irritation of toxins, certain drugs, etc. Chronic passive congestion occurs most commonly as a part of a general venous stasis due to cardiac decompensation.

Since the earliest times, examination of the urine has been used to detect kidney disease. In all forms of nephritis, as well as of nephrosis, the urine contains more or less albumin and rare to many tube casts. Albumin and casts indicate pathological changes in the kidney but they give little definite information as to the nature, extent or seriousness of those changes, and they do not, by any means, always indicate nephritis. The amount of albumin may mean little. We often see patients ready to die of chronic interstitial nephritis whose urines show only traces of albumin so small as to be overlooked except by most careful examinations and, on the other hand, patients

with albumin in large amounts who are soon well.

A few hyaline or finely granular casts are often found and may mean merely a slight temporary irritation or circulatory disturbance of the kidneys or the sclerotic changes due to old age. Much more significant is the presence of coarsely granular, fatty, epithelial, blood and waxy casts.

It is rare in our experience to find a urine from a patient of 50 years or older without some albumin and a few casts and these people do not all have nephritis in a serious form by any means. On the other hand, casts always indicate some disturbance in the kidneys and their continued presence should not be disregarded unless nephritis can definitely be put out of the picture.

In nephritis, microscopic examination may also show red blood cells and more or less pus cells. In pyelonephritis both may be in considerable numbers.

The kidneys rank next in importance to the lungs and skin as organs of excretion. Unused food products and much waste material are normally eliminated by the kidneys. An important evidence of nephritis is failure of the kidneys to carry on these functions adequately to normal life. Such failure results in an accumulation of these substances in the blood and perhaps in the tissues of the body. Chief interest attaches to sodium chloride and the non-protein nitrogenous waste products of which urea forms approximately one-half. In some cases, non-protein nitrogen only is retained, in others only sodium chloride, and in still others both of these substances. Both are best measured by the exact methods of blood chemistry.

Sodium chloride retention is usually associated with edema, but edema may be associated with hypochloremia. During a period of elimination of edema the sodium chloride content of the blood and of the urine may be much increased. Due to available methods of determining blood chlorides we no longer place patients on a salt-free diet or restricted salt diet in the absence of salt retention. Salt is necessary to metabolism. Salt restriction is no longer "routine treatment" in nephritis.

Probably the most useful of all methods in the diagnosis of nephritis and in following the progress of individual patients with nephritis, are the various **functional tests**. They should be used with the realization that they show function only and not the extent of anatomic damage, which may, but do not always, go hand in hand. It should also be recognized that some of the functions may be disturbed while others remain unchanged, and that the efficiency of the kidneys may be markedly impaired by extrarenal conditions such as cardiac decompensation, severe general anemia, hypertrophied prostate and cystitis.

On account of the remarkable reserve power of the kidneys, their function may not be appreciably disturbed by actual organic disease until considerable damage has occurred. In some early cases of nephri-

*Read before the North Mississippi Medical Society, Oxford, October 18, 1935.

J. M. DORRIS, M.D., F.A.C.S.

General Surgery

Traumatic Neurosurgery

402 Physicians and Surgeons Bldg.

Telephone 6-3288

899 Madison Ave.

Memphis, Tenn.

tis, the functional activities may even be temporarily above normal. Because of these facts, more than one functional test should be used as a check.

There are many tests of renal function. One of the simplest, easily carried out in office practice is the **phenolsulphonophthalein test**. Normally, the kidneys excrete 60% to 75% of the dye injected within a two-hour period. A fall to 40% indicates impaired function and demands attention, although it does not necessarily mean nephritis. Reduction to 20% to 30% is usual in established nephritis. Excretion of less than 10%, with some notable exceptions, may usually be regarded as of extremely serious import and possibly early death. Like most of the functional tests, this finds its greatest usefulness in chronic interstitial nephritis, the form most frequently met in general practice.

It should be remembered of the dye test:

1. Normal or increased excretion may be found in acute nephritis.

2. In acute nephritis, also, extremely low excretion may occasionally be followed by complete recovery. Similar low excretion in chronic nephritis might mean an early fatal outcome.

3. For a short period at the beginning of chronic nephritis, excretion may be increased over normal.

4. Low excretion, even as low as 10% to 15%, is the rule in cardiac decompensation with chronic passive congestion of the kidneys, and this rises rapidly when the congestion is relieved by improved heart action. Here the determination of the blood urea nitrogen will aid much in the diagnosis. The urea nitrogen is normal in chronic passive congestion due to heart decompensation without nephritis.

The estimation of the blood urea nitrogen in

conjunction with the phenolsulphonophthalein test is of great service in cardio-renal conditions as a means of separating primary renal disease with secondary cardiac change from secondary renal disturbance resulting from passive congestion due to a poorly compensating heart lesion.

RENAL INSUFFICIENCY

PHENOLSULPHONPHTHALEIN FUNCTION TEST

Renal Function	Excretion of Dye Per Cent
Normal	60 or more
Slight impairment	59 to 40
Moderate impairment	39 to 25
Marked impairment	24 to 11
Maximal impairment	10 to 0

CASE 1. ACUTE NEPHRITIS

White, female, age 9. Edema of eyelids. Blood pressure 170/110. URINE: Albumin 8% (by volume); hyaline and finely granular casts; few red blood cells.

BLOOD	Feb. 8.	Feb. 12.
Urea nitrogen	23.35 mg.	16.61 mg.
Uric acid	4.0 mg.	2.38 mg.
Creatinine	3.0 mg.	1.5 mg.
Chlorides	330.0 mg.	
Plasma proteins	11.89%	8.64%
Phenolsulphonophthalein (2 hours)	60.0%	

Feb. 12. URINE: Trace of albumin; no casts; some red blood cells. BLOOD PRESSURE: 120/80.

In this case, normal dye test was obtained in acute nephritis.

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CASE 2. DEVELOPING CHRONIC NEPHRITIS

White, male, age 56.

1932—URINE: Specific gravity 1.019 to 1.026; large trace of albumin; hyaline, granular and waxy casts.

BLOOD: Urea nitrogen 13.1 mg. per 100 cc.; uric acid 3 mg.; creatinine 1.5 mg.; chlorides 406; plasma proteins 4.9%.

PHENOLSULPHONEPHTHALEIN: 25% in two hours.

1934—URINE: Specific gravity 1.019 to 1.031; large trace to 12% of albumin; many casts.

BLOOD: Urea nitrogen 23 mg. per 100 cc.; creatinine 3.2 mg.; plasma proteins 10.2%.

Died in coma at home (uremia).

In this case, the dye test indicated definite kidney impairment when blood chemical tests were normal.

CASE 3. PYELONEPHRITIS

Colored, female, age 51.

	1927	1927	1929	1930
	July 23	Sept. 10	Aug. 20	June 6
URINE:				
Specific gravity	1.005	1.009	1.006	1.005
Albumin	Large trace	Trace	Large trace	Trace
Casts	None	Rare	None	None
Pus cells	Many	Few	Many	Many
P. S. T. Intravenous:				
Minutes	15	30	30	30
Right	7%	10%	25%	1.3%
Left	5%	15%	6%	5.0%

BLOOD:

Urea nitrogen 14.7 mg.

Creatinine 1.2 mg.

In this case, in spite of the low dye excretion, patient lived for seven years and carried on occupation as school teacher.

Died of pneumonia in 1934.

TEST MEALS FOR RENAL FUNCTION

The test meal for renal function was first advocated in this country by Mosenthal. It is useful for the detection of very early kidney disease. It may give definite evidence of renal disturbance at a time when other functional tests still indicate normal or increased function. It is simple and may readily be carried out in private practice.

When the kidneys are normal, the volume and specific gravity of the urine vary markedly at different times in any 24 hours, representing the response to the varying demands for elimination of water or solids to maintain the concentration of the body fluids at a constant level. Diseased kidneys lose this power to meet these demands and the urine remains of almost uniform concentration from hour to hour. It is the purpose of the test meals to indicate the presence and extent of any such loss of function.

In the Mosenthal test, the patient is given a full diet of three meals and at least a pint of fluid must be taken with each meal. The patient is directed to empty his bladder immediately before breakfast. The bladder is completely emptied at exactly 10 a. m., 12 noon, 2 p. m., 4 p. m., 6 p. m., 8 p. m., and at 8 a. m. the next morning. Each specimen is measured and the specific gravity taken.

In health the night urine will be much less than the total day urine—usually 250 to 350 cc., never over

750 cc. Its specific gravity will be 1.018 or above. The highest specific gravity of the two-hour day specimens will exceed 1.018 and the difference between the highest and lowest specific gravities will not be less than 8 or 9 points.

With impaired kidney function, one or more changes from normal will be found. The volume of the night urine will exceed 750 cc., one of the first and most definite evidences of disease. A volume between 500 and 750 cc. is suspicious and usually indicates impairment. The highest specific gravity of any of the day specimens will be less than 1.018. The specific gravity will be fixed, that is, there will be less variation in the specific gravities of the two-hour specimens. This is a very important sign of renal insufficiency. In marked cases, the difference between the highest and lowest specific gravities may be only one or two points. Usually the level at which the specific gravity is fixed becomes lower as the functional impairment increases and the kidneys lose their ability to concentrate urine.

Volhard and Fahr have also suggested two very simple tests of kidney function that may easily be done without elaborate equipment. One test measures the concentrating power of the kidneys, the other the diluting power. The concentration test should be done first and 24 hours allowed to elapse before beginning the dilution test. These tests show decreased renal efficiency often before it can be demonstrated with other standard tests.

For the concentration test no fluids are allowed from the evening before the test until the test is finished and no food between meals. Breakfast at 8 a. m. consists of dry cereal with sugar, syrup or honey, one egg, toast or bread with butter; dinner at 12 noon of roast beef, steak or chops, potatoes, bread and butter and jam; supper at 5 p. m. of two eggs, bread and butter and jam.

After emptying the bladder at 8 a. m., the urine is collected in separate containers every three hours until night, and then all urine from 8 p. m. to 8 a. m. the next morning in one container. The amount and specific gravity of each specimen are determined. Normally the total day urine should be much greater in amount than the night urine and the specific gravity of at least one sample should be as high as 1.030.

For the dilution test, breakfast is omitted and for dinner and supper the diet to which the patient is accustomed is given. At 8 a. m., the bladder is emptied and 1500 cc. of water given. The urine is collected in separate containers at half-hour intervals until 12 noon, eight specimens in all. All urine from 12 noon to 8 a. m. the next morning is collected in one container.

The amount and specific gravity of each specimen is taken. Normally the total amount voided should be 80 to 120 per cent of the fluid intake (1200 to 1800 cc.). The specific gravity of at least one specimen should be as low as 1.003.

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CASE 5. NORMAL FUNCTION

May 29-30—CONCENTRATION TEST:

Hour	Amount	Sp. Gr.
10:30 a. m.	80 cc.	1.028
12:00 N.	35 cc.	1.028
3:50 p. m.	110 cc.	1.032
8:00 p. m.	Not preserved.	
8:00 p. m. to		
8:00 a. m.	210 cc.	1.034

Specific gravity normal.

June 1-2—DILUTION TEST:

Hour	Amount	Sp. Gr.
8:30 a. m.	175 cc.	1.012
9:00 a. m.	200 cc.	1.007
9:30 a. m.	150 cc.	1.003
10:00 a. m.	100 cc.	1.004
10:30 a. m.	50 cc.	1.005
11:00 a. m.	40 cc.	1.008
11:30 a. m.	25 cc.	1.011
12:00 N.	75 cc.	1.012
12:00 N. to		
8:00 a. m.	450 cc.	1.012

Fluid intake 1500 cc.; urine 1265 cc. (84%). Lowest specific gravity 1.003.

BLOOD: Urea nitrogen 13 mg. per 100 cc.; uric acid 2.7 mg.; creatinine 1.8 mg.; plasma chlorides, 561 mg.; sugar 91 mg.

This patient had been much disturbed by a report of possible nephritis from a "urine institute."

CASE 4. EARLY CHRONIC NEPHRITIS

URINE: Slightest possible trace to large trace of albumin; few hyaline, rare finely and coarsely granular casts.

April 24—Urea nitrogen 15.4 mg. per 100 cc.

April 2-27—CONCENTRATION TEST:

Hour	Amount	Sp. Gr.
11:00 a. m.	50 cc.	1.026
2:00 p. m.	25 cc.	1.030
5:00 p. m.	50 cc.	1.026
8:00 p. m.	27 cc.	1.029
8:00 p. m. to		
8:00 a. m.	125	1.032

Day urine 152 cc. to night urine 125 cc. Specific gravity normal.

April 28-29—DILUTION TEST

Hour	Amount	Sp. Gr.
8:30 a. m.	9 cc.	1.027
9:00 a. m.	9 cc.	1.027
9:30 a. m.	30 cc.	1.017
10:00 a. m.	40 cc.	1.008
10:30 a. m.	33 cc.	1.010
11:00 a. m.	25 cc.	1.017
11:30 a. m.	20 cc.	1.016
12:00 N.	4 cc.	1.030
12:00 N. to		
8:00 a. m.	450 cc.	1.024

Fluid intake 1500 cc.; urine 620 cc. (41%). Lowest specific gravity 1.008.

April 30—BLOOD: Urea nitrogen 11.67 mg.; uric acid 5.55 mg.; chlorides 921 mg.

May 2—PHENOLSULPHONEPHTHALEIN: 45% (2 hours).

NITROGEN RETENTION

The nitrogenous substances of the blood may conveniently be divided into two classes:

1. Proteins, including fibrin, albumin and globulin;
2. Various non-protein substances, whose trans-

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portation is one of the chief functions of the blood. These consist of partly transformed food stuffs, which not being used by the tissues, circulate until excreted by the kidneys, and waste products of metabolism which also must be excreted.

Both classes are of interest in nephritis but it is the non-protein group which will be considered first, although the amount eliminated varies greatly from hour to hour, depending upon food intake and exercise, due to the ability of the normal kidney to adapt itself, the concentration in the blood is kept at a fairly constant level. When the kidney function is impaired, the non-protein nitrogenous substances cannot be excreted normally and accumulate in the blood. Among the substances thus retained are urea, uric acid and creatinine.

In health, under ordinary conditions of diet and exercise, the total non-protein nitrogen amounts to 25 to 30 mg. per 100 cc. of blood, urea nitrogen (1 gram of urea nitrogen corresponds to 2.14 grams of urea), 12-15 mg.; uric acid, 2-3 mg.; creatinine, 1-2.5 mg.

Because of the remarkable reserve power of the kidneys, estimation of the non-protein nitrogenous substances are of less value than some other tests in detecting and measuring the earliest kidney disabilities. In more advanced grades, these estimations are the most helpful of all functional tests, especially as a guide to prognosis and treatment and as an aid in the differential diagnosis of renal and cardiac disorders.

Although the determination of non-protein nitrogen or urea nitrogen alone will give a valuable estimate of the kidney condition, estimation of urea nitrogen, uric acid and creatinine will give the best insight into the true condition.

It has been believed by some that uric acid is first retained, urea nitrogen next, and finally creatinine, in order as the kidney impairment becomes worse. According to this view, an increase in uric acid in the blood would be the earliest sign of nitrogen retention, provided, of course, other causes of uric acid accumulation, such as gout and cardiac decompensation, are not present. In our experience, the determination of uric acid has furnished little or no information on kidney conditions not shown by urea nitrogen determinations.

The creatinine content of the blood is probably the surest guide in prognosis, any retention indicating grave disorder of the renal function, and a rise to 5 mg. per 100 cc. of blood warranting a hopeless prognosis in chronic nephritis. This does not always hold in acute nephritis or in acute exacerbations in chronic nephritis.

BLOOD CHEMISTRY—AVERAGE NORMALS

	Milligrams per 100 cc.
Urea nitrogen	12 to 15
Uric acid	1 to 3
Creatinine	1 to 2.5
Chlorides	470 to 520
Cholesterol	140 to 170
	Per Cent
Plasma fibrin	0.2 to 0.85
Plasma albumin	4.0 to 5.0
Plasma globulin	1.6 to 2.4
Total plasma proteins	5.8 to 8.25

RENAL INSUFFICIENCY

Renal Function	Non-protein Nitrogen Mg. per 100 cc.	Urea nitrogen Mg. per 100 cc.
Normal	30 or less	15 or less
Slight impairment	31 to 40	16 to 27
Moderate impairment	46 to 65	28 to 44
Marked impairment	66 to 90	45 to 64
Maximum impairment	91 or more	65 or more

CASE 6. White male, age 11.

URINE	April 2	April 3	April 8
Specific gravity	1.028	1.010	1.013
Albumin	Large trace	Slightest possible trace	None
Casts	Numerous fine gran.	None	None

BLOOD			
Urea nitrogen	42.96	48.57	16.35
Uric acid		5.8	6.6
Creatinine		2.0	2.0

PLASMA:

Fibrin	0.1%
Albumin	3.6%
Globulin	0.9%

Total plasma proteins 4.6%

The moderate to marked retention of urea nitrogen was the best indicator of the renal impairment in this case and to the improvement which followed.

CASE 7. CHRONIC NEPHRITIS

White, female, age 62. Nausea, vomiting, pruritis.

Blood pressure 150/90.

October 3.

URINE: Specific gravity 1.010; slight trace of albumin; few finely granular casts; many pus cells; some fresh red blood cells.

BLOOD: Hb. 97%; erythrocytes 4,750,000; leukocytes 12,200; small lymphocytes 38%. large lymphocytes 3%, monocytes 2%, polymorph. neutrophils, mature 19%, band forms 35%, lymphoblasts 1%, eosinophils 2%.

October 4.

BLOOD: Urea nitrogen 59 mg. per 100 cc.; uric acid 5 mg.; chlorides 980 mg.; sugar 118 mg.; cholesterol 173 mg.; calcium 12 mg.; phosphorus 2.8 mg.; plasma proteins 9.11%.

FRACTIONAL GASTRIC ANALYSIS: Free HCl 34; total acid 88; no lactic acid.

ROENTGENOLOGY (Gastro-intestinal): Dilated duodenum; no gall stones.

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October 6.

BLOOD: Urea nitrogen 54.7 mg. per 100 cc.; creatinine 1.7 mg.; icterus index 14.

October 7.

CYSTOSCOPIC (Catheterization of Renal Pelves): Numerous pus cells; no micro-organisms in smears or cultures.

October 12.

BLOOD: Urea nitrogen 68 mg. per 100 cc.; creatinine 1.3; chlorides 400 mg.; plasma proteins 14.53%.

PHENOLSULPHONPHTHALEIN TEST (2 hours): 9%.

There was marked to maximum retention of urea nitrogen and dye test indicated maximum renal impairment. The creatinine was still normal. The prognosis was considered bad.

CASE 8. CREATININE RETENTION

Colored, female, age 32.

URINE: Specific gravity 1.005; albumin 3 to 4% (by volume); many pus and red blood cells; no casts.

BLOOD: Urea nitrogen 33.6 mg. per 100 cc.; uric acid 16.6; creatinine 24.

Died in 15 days. Similar urinary findings could have occurred with pyelitis or cystitis and could have been followed by recovery.

CASE 9. CREATININE RETENTION

Colored, male, age 49. Shortness of breath and headaches for one year. Edema of feet for two weeks.

URINE: Specific gravity 1.004; albumin, large trace; rare brown granular cast; some pus cells; no blood.

BLOOD: Urea nitrogen 238 mg. per 100 cc.; uric acid 12.5 mg.; creatinine 9 mg.

Died in four weeks. Urine findings did not necessarily indicate rapidly fatal outcome.

CASE 10. CREATININE RETENTION

White, male, age 41. Albumin in urine for 14 years; weak.

URINE: Specific gravity 1.006; albumin 2% (by volume); numerous red blood cells; no casts.

BLOOD: Urea nitrogen 32.9 mg. per 100 cc.; uric acid 5 mg.; creatinine 6.4 mg.

Died in three days. Blood findings were only indication of early death.

CASE 11. CREATININE RETENTION

Colored, male, age 69. Urinary retention; headache; muscular twitchings; temp. 101 degrees F; pulse 120; blood pressure 160/90. Prostate large hard; 1500 cc. of foul smelling urine obtained by catheter.

BLOOD: Leukocytes 15,200; polymorphs. 86%; Wassermann test negative.

Urea nitrogen 46.9 mg. per 100 cc.; uric acid 10 mg.; creatinine 12 mg.

Died in one week. Creatinine retention indicated the seriousness of the condition.

CASE 12. NEPHROSIS

White, male, age 6.

URINE: Specific gravity 1.030; albumin 12% (by volume); many hyaline, rare finely granular casts; no blood.

BLOOD: Hemoglobin 72%; color index 0.85.

Urea nitrogen 5 mg. per 100 cc.; uric acid 6.2 mg;

creatinine 1.1 mg; chlorides 520 mg.; cholesterol 213 mg.; plasma proteins: fibrin 0.32%, albumin 3.28%, globulin 0.30%—total 3.90 per cent.

While the albumin in the urine is excessive, protein foods should be given rather than withheld.

By estimation of the plasma proteins—fibrin, albumin and globulin, it is possible to get some information as to the desirability of limiting the proteins in the diet. Especially is this true in nephrosis. We are learning that a routine low protein diet is not best for all cases of nephritis. The fact that a diseased kidney allows albumin to appear in the urine does not necessarily mean that the patient is getting too much protein or that the withholding of protein will be of benefit. If the needs of the body are not met by food, the body will use its own protein to its detriment. In lipid nephrosis, the blood proteins are low and ample protein as well as other protein sparing foods should be insisted upon. We shall get the best results if we know the exact condition so far as possible before we decide upon treatment in any disease of the kidney.

Wohl and Brust have recently called attention to the fact that high blood urea nitrogen may occur without chronic kidney disease in severe loss of body fluids and depletion of blood electrolytes. There may be coma and albumin and casts in the urine. Diminution or absence of urinary chlorides are the most striking findings and salt and fluid administration are curative in the early stages.

The blood picture in nephritis may be briefly mentioned. In chronic interstitial nephritis, there is generally a moderate secondary anemia which may become more marked as the disease progresses. If cardiac decompensation occurs, the red corpuscles and hemoglobin tend to rise to normal or even above normal. In chronic diffuse (parenchymatous) nephritis, the anemia is likely to be more striking and is considered by some to be of serious prognostic significance. Moderate polymorphonuclear leukocytosis may occur late in the disease.

Kidney disease always may be serious. Chronic kidney disease tends to be progressive. Patients die of kidney disease. It behooves us to use every means at our command to improve our knowledge of the individual case to the end that we can do most for our patients.

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Treatment of Pulmonary Tuberculosis in the Home—Some Practical Considerations

W. D. ROSBOROUGH, M.D.
Sanatorium, Miss.

It is desired to bring out some practical points applicable to the home treatment of a patient who has pulmonary tuberculosis. It is not hoped to discuss the home treatment of pulmonary tuberculosis in its entirety nor to go in detail on any phase of the subject. Most patients do better in a well-conducted sanatorium, yet for various reasons, the practitioner has patients remaining at home who need medical care.

The prime weapon to obtain an arrested case of tuberculosis is rest. In this paper, when using "well" in reference to a case of tuberculosis, an arrested case is meant. Mental, physical and anatomical rest are to be considered. Physical rest is best obtained by having the patient remain strictly in bed. Just lying in bed 24 hours a day does not mean that one is really in a state of rest. Moving the arms and legs, and twisting and squirming in bed prevent relaxation which is essential for real rest. Relaxation mentally as well as physically is essential. This cannot be obtained when the patient is in a state of mental agitation, worrying about something that is usually completely beyond his control. When the mind is busy worrying, it is using up energy that could best be used in helping to overcome disease. In this state, it is also sending out nerve impulses to the muscles, keeping them in a state of partial activity, thus preventing relaxation.

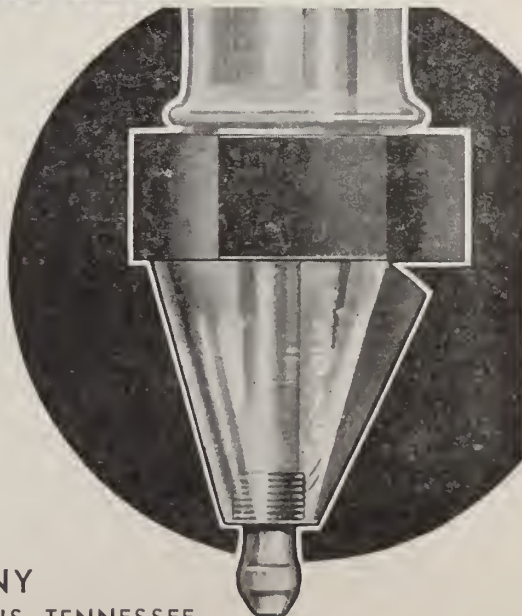
A plan to help in relaxation has been suggested by one authority on tuberculosis in which the patient makes an inventory of the different parts of the body, starting with the neck, then the arms, the torso, and the legs in turn to see that they are completely relaxed. This complete relaxation should be attained for five one-hour periods each day. The first of these one-hour periods of rest starts one-hour after breakfast, the others start one and one-half hours before and one-half hour after the other two meals. These periods of rest constitute the rest hours. All lights should be out and the patient should be ready for bed at 9:00 p. m. The patient's time otherwise is spent in varying amounts of activity, depending upon his condition. The toxic patient may do nothing more than read a little from a newspaper or a magazine containing light reading matter. The quiescent case may be out taking walking exercise. Between these extremes, the activities are varied, depending upon the personality of the patient, the activity of the disease, as well as his physical ability. For the over-anxious patient, who is apprehensive, teaching him to develop a "don't-give-a-dam" attitude may materially assist in relieving tension, strain and worry.

By anatomical rest of the lungs is meant that obtained by measures such as artificial pneumothorax, paralysis of the phrenic nerve, thoracoplasties, and various other procedures. Due to the prominence being assumed by artificial pneumothorax in the treatment of lobar pneumonia, it may be hoped that more physicians will qualify to carry out this procedure in their practice.

The diet best for a tuberculous patient is one that is well balanced, containing the right proportions of carbohydrates, fats, proteins and vitamins. A diet somewhat higher than normal in fats and proteins

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has been advocated, but it is more expensive than one that contains a predominance of carbohydrates. Meals served four or five hours apart in an attractive manner, hot from the kitchen should be all that is needed. One or two cooked eggs as well as three glasses of milk daily are considered adequate amounts while undernourished, though it must be remembered that the best insurance in getting an arrested case of tuberculosis depends to a great degree upon the patient's ability to take and digest a reasonable amount of food. Consequently, care should be taken to avoid overloading the digestive apparatus and impairing its efficiency.

Fresh air brings up the question of quarters for the patient. A corner room containing two windows so that cross ventilation is obtainable, facing southwest or southeast is most desirable. This room may or may not have a sleeping porch. The better the financial condition of the patient, the more comfortable he should make himself. A room that commands a view where activity of some kind is going on will help to pass more pleasantly the time not spent for rest hours. The patient may even be grateful for the movement of the leaves of a tree in the breeze—something to break the monotony of a view.

The room should be as far removed from the activity of the house as possible. Children should play where they will not disturb the patient. In furnishing the room, the ease with which it may be cleaned should be kept in mind, yet comfort should not be sacrificed as this room will be his abode for 24 hours a day for months or years. Thus it is furnished as simply as is possible to be consistent with his contentment.

He should occupy the room alone in a single bed, preferably a hospital bed, with an adjustable back rest. The bed should not be placed in a corner where the air is stale but in the middle of the room alongside a window where he may have the benefit of moving air. Screens may be used to prevent drafts on his head. Air currents elsewhere keep the air fresh and clean. Cold air is desirable, giving an exhilarating feeling, though comfort should not be sacrificed for cold air. Beside tables, placed within easy reach so that as little energy as possible is expended in obtaining articles therefrom, make him less dependent upon others. A bed lamp is desirable. Hot pads, "pigs" or other sources of heat, make him comfortable while enjoying the stimulating qualities of cold, fresh air.

The routine of the home should be adjusted to fit in with that established for the patient. The family, friends, as well as the physician, if they are to be of real help, must shoulder the patient's burdens, relieving him of all responsibility and business cares. Everything possible must be done to keep him in a cheerful fighting spirit. He has much to fight—the tendency to become morose and discouraged, as well as his disease. His morale should ever be kept in fighting trim.

Sir Marcus Peterson said, "There are two kinds of consumptives whom I will not treat and who will not get well, alcoholics and damn fools!" Curing tuberculosis depends to a great extent upon teaching the patient how to cope with his problems, together with his willingness to cooperate. This education is best obtained in a good sanatorium, though it may be learned to some extent by means of books written for

the tuberculous patient, with the aid of the physician. The Secretary of the State Tuberculosis Association is glad to assist in sending literature and a list of helpful books to any tuberculous patient.

In educating the patient, the physician must be willing to expend much of his time in arranging the little details that confront the tuberculous. This again brings up the matter of routine, which should be established in the early days of treatment, worked out and then adhered to with that tenacity of purpose necessary in doing the same thing at the same time day after day with as little effort as possible. After the right habits are formed, cure-taking becomes easier.

Also a matter of education is the instilling in the patient's mind that morale which will keep him putting forth his best effort in carrying out the routine. This will keep him hopeful and prone to look on the bright side of things, making him realize that the ups and downs of tuberculosis are the natural course of the disease. It will also give him that "smile-damn-you-smile" attitude, the will, desire and determination that he shall get well.

In remaining at home, the tuberculous patient has to consider the danger of infecting others as well as his own comfort. This danger can be reduced to a negligible amount. A sanitary, careful consumptive is not dangerous. By taking care of all secretions from the lungs in the form of sputum as well as droplets expelled in coughing and sneezing, he can prevent infection of others. All sputum should be expectorated in a burnable cup. This is held in a metal container which has a lid. The container should be sterilized twice a week. A porcelain cup with a lid may be used if it is sterilized daily. It is far preferable to have the burnable cups. A paper bag together with some tissues pinned to the bed are convenient. After a tissue has been used, the part held next to the face while coughing, sneezing, or otherwise used, is folded inside and the tissue is placed in the bag. The bag is burned with the cup containing the sputum at least daily. The sputum cup is best packed with tissue paper or sawdust so that it may be more completely burned. All sputum should be kept moist until burned to prevent drying,

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in which state it can float in the air and the germs easily spread.

The sputum that contains secretions from the lungs should never be swallowed. Kissing on lips is taboo. Sleeping with a tuberculous patient is dangerous. The teeth and gums should be well-cared for. The dishes and silverware should be kept separate and sterilized by boiling after each use. Paper napkins, which may be burned after use, are preferable to linen napkins. All bed linen and towels after being boiled, washed and ironed, are not infective. Men should be cleanly shaved, permitting no mustache. A man feels better and he has a better morale when cleanly shaven. A mustache acts as a place for germs to collect, and thus may cause reinfection.

Children are much more readily infected than adults. This infection in a child is much more likely to develop into active disease than in the case of an adult. Hence it is stressed that no child under 16 years of age is to be permitted in the tuberculous patient's room. It is preferable that no children live in the same house with a tuberculous patient. Should this not be practiced, the children should be kept out of the patient's room and not allowed to play on the floor or handle articles that have been in contact with the patient. Again, children, no matter how considerate and well trained, generally interfere with cure-taking by making disturbing noises when the patient is trying to rest.

It is advisable to give only two baths a week, for more than that are not necessary to keep the skin in a healthy condition. Excessive bathing whether given by an attendant or taken by the patient, consumes too much energy. Energy is to be con-

served in the treatment of active tuberculosis. After the patient is able to sit up in an easy chair for two hours, together with walking around some without harm, he may take his own baths.

Only a few of the outstanding symptoms such as cough, blood expectoration, hemorrhage, pleurisy and insomnia will be briefly discussed. Cough that is productive is useful; if unproductive, it is useless and harmful. Some 75% of unproductive cough can be controlled, and 100% should be, by using will power to suppress all useless cough. Some find that taking a pinch of salt, a sip of water, or some other simple measure helps to prevent cough. Productive cough should be kept at a minimum, using as few coughs as well as the least exertion possible in raising the material from the lungs. Should productive cough become so harassing as to seriously interfere with rest, it is advisable to use codeine or other simple cough remedies so that some rest may be obtained. It should always be remembered that the best cough syrup for a lunger is complete rest in bed. Highly seasoned foods, especially those containing pepper, tend to increase cough.

Bloody expectoration is a danger signal. It should be so regarded until proved innocuous or that the origin of the blood is not from the lungs. Hemorrhages should be considered in the same light as bloody expectoration, only more seriously. Neither one absolutely means an increase of activity, though generally they do. After bloody expectoration or hemorrhages, should there be signs of increased toxemia as evidenced by an increase of temperature, a more rapid pulse or an increase in expectoration, the patient should be placed on strict bed rest. While hemorrhaging,

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elevating the body and head of the patient to an angle of about 33 degrees is of material help in making it easier for the patient to expectorate, as well as in preventing soiling of the bed linen with blood. Treatment of the majority of hemorrhages consists of elevation of the head of the bed to a 33 degree angle; giving the patient assurance that hemorrhages are rarely serious, to prevent fright with its resultant excitement; and a sedative such as bromide, and codeine by mouth or by hypodermic. Many other remedies are available. Artificial pneumothorax may be indicated in prolonged, dangerous hemorrhages.

Pleurisy which is severe enough to cause extreme discomfort may be lessened to a marked degree by strapping the hemithorax so affected. Some have found a breast binder encircling the thorax to be effective, though it limits the excursions on the unaffected side. Opiates or other sedatives may be indicated where the pain is severe. The ease with which a consumptive becomes an opiate addict should always be kept in mind in order to guard against it. Artificial pneumothorax is also useful in severe, prolonged pleurisy, though many things should be considered before using it for this purpose. To try to explain when it is and is not indicated is beyond the scope of this paper.

Most patients sometime during the course of their disease find it difficult to get to sleep and to remain asleep for a sufficient length of time. Twelve hours of complete relaxation is said to be equivalent to ten hours of sleep. Another authority has said, "Buy sleep as cheap as possible." In such a long drawn out disease, it is easy for the patient to become dependent upon medication to help get to sleep. The writer believes that it is a rare occasion in which hypnotics are indicated for sleep. The patient is too prone to become dependent upon something besides his own will power and capability to overcome insomnia.

There has not been found any medicine that is a specific for tuberculosis. The physician treating a patient at home will need to rely on placebos for their psychic effect more than is necessary in a sanatorium. The medicinal treatment in tuberculosis is mostly symptomatic. Calcium is used extensively in treatment of hemorrhages as a placebo and has real value in the form of the gluconate or chloride given intravenously for the diarrhoea of tuberculous enteritis. Trional or sulphonal seem to be less habit forming than the barbiturates as hypnotics. Codeine is the outstanding opiate for use in controlling cough. Each physician will have many other drugs which he has found effective.

Regarding the use of alcohol and tobacco by the tuberculous, one can find an abundance of argument for their use. The writer does not believe there is ever any place for either. There may be an occasional case in which the physician will have to compromise and be able to regulate their use so that no appreciable harm will result in the limited use of either.

The patient should be convinced that taking the cure is his job and it depends primarily upon his actions whether he is to get an arrested case or die. He should be imbued with a real enthusiasm and determination to get well. Visitors in moderation at the right time of the day may be helpful. However, it should be a rule from the start of his cure that no visitor shall be allowed to break into any of his rest

hours. No visitors should be allowed at night, it being preferable for them to come during the morning hours. A patient does not want the pity of his friends. He has backbone to face and conquer this thing himself, and he soon realizes that most visitors tend to weaken his morale.

Exercise is just as important as is rest in the routine of taking the cure, there being a time for rest, a time for exercise; and yet more frequently, a time for a combination of both. As arsenic is a valuable medicine, so exercise is valuable in the treatment of tuberculosis if rightly used. Exercise is a poison in that wrongly used, it causes the breaking down of partly healed tissues, plus an increase in the formation of toxins, the absorption of which poisons the body. Thus it is dangerous when taken in doses that are too large for a particular patient at a particular stage of the treatment of his disease. There are two extremes in the personalities of patients—one who cannot be kept at rest in bed, and the other who is over-cautious and extremely hard to get out when it is time for exercise.

One of the most precarious times for a lunger is when after many months of assiduously taking bed rest he finds that he is feeling better or as well as he has ever felt in his life. He has no symptoms of disease. Then is the time for the physician to impress upon him the fact that he feels well long before his partly healed lungs will permit extra expenditure of energy. A person should remain in bed several days after all symptoms have subsided following an acute disease. In the case of tuberculosis, a chronic disease, a much longer time must elapse after subsidence of symptoms before it is safe to allow an increase in exercise. Then when the time for an increase in exercise arrives, it should be graduated in small doses depending upon many factors. Should the patient have had a far-advanced case with much toxicity, he will have to go slower than the patient who has had only a small amount of pathology with little or no toxemia. The doctor must put him up

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slowly enough so that back-sets may be reduced to a minimum.

When the patient's condition indicates that he is ready for exercise, there is to be determined how much he may start with, how fast he may increase this exercise, and how much he may do. For a patient who has been a strict bed patient with loss of muscle tone, it is well to start by instructing him to draw up his legs two times daily, increasing gradually up to 10 or 15 times a day; next, he should be propped up with the back rest in the second notch five minutes a day until 30 minutes daily is reached. Should his condition warrant, this graduated exercise should be increased gradually in small doses to one hour two or three times a day. During this time, he may raise himself from the back rest by his own effort to an upright sitting position in bed; next swing his feet from side of bed, later standing a few seconds with assistance; and then take a few steps around the room. He can then omit one hour's sitting up in bed and substitute for it five minutes' sitting in an easy chair, increasing five minutes until sitting up one hour, two or three times a day.

It must be remembered that this is rarely a continuous progression, but is usually interrupted many times. For instance, the patient may sit up in bed twice a day for months before his condition warrants further increase, as he should become thoroughly adjusted to each increase in expenditure of energy before adding more. After sitting up in an easy chair for a while, he may go to an adjoining bath room once a day and on up to full bath room privileges, as he is able. He should be allowed to take his own baths only after he has done considerable walking around the

house.

After he has been out of bed practically all of the time except when taking rest hours, he may be permitted to attend an occasional picture show or other form of entertainment. Then he may start walking exercise on level ground, starting at five minutes a day and increasing two to five minutes daily until he is walking two hours a day. After two or three months of this walking exercise, he may be permitted to do part time work.

At any time during this regime of graduated exercise, he may have to stop on account of a return of activity and go back to more or less strict bed rest to start the same routine of graduated exercise when he again becomes quiescent. As a check upon whether he should increase, decrease, or stop his exercise, the pulse, temperature, feeling of tiredness, and the amount of time it takes to relieve his fatigue provide our most reliable gauges. Always he should stop short of tiredness.

Much depends on the close supervision by the physician of the patient, for no fast rule can be given. The judgment of the physician with the intelligent cooperation of the patient, has much to do with the outcome of any particular case.

Some patients can never be anything but invalids, confined to bed most of the time, while others may be restored to ability to carry on the work of a normal individual.

Periodic physical examinations, roentgenograms of the chest, blood sedimentation tests as well as other tests should be performed during the course of the patient's disease as well as after an arrested case has been obtained. A consulting, competent roentgenolo-

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gist to assist in diagnosis and to keep up with the patient's progress is invaluable. It is difficult to properly treat tuberculosis without the aid of serial X-ray films.

SUMMARY

1. Rest, fresh air, food and education are discussed.
2. The quarters should be made as comfortable as is consistent with the patient's financial ability.
3. A well-educated patient makes the best patient.
4. The infection of others should be prevented.
5. Children should not come in contact with an open case of tuberculosis.
6. The treatment is largely symptomatic.
7. The patient's mode of life should be regulated in regard to energy conservation, routine, exercise, and morale.
8. Adequate laboratory aid is essential in making the proper diagnosis and in handling the case.

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Down The Ages With Gout

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Having complacently accepted our visitations of gout during the past 2000 years as a penalty invoked by the Gods for our indulgence in the flesh pots, we are about to do something about it. Present day physiochemists are not in accord with the time honored uric acid theory, and when they are not in accord, they bestir themselves to account for the phenomena.

Three hundred and fifty years before Christ was born, Hippocrates gave the first anatomical description of gout. Five hundred years later Galen added his thought as to the causal agency, stating: "black bile, blood or phlegm consolidate around the joint and thus form tophi." Through the middle ages this theory was varied somewhat to include the thought that "tartar was deposited in the joints from the wine they drank."

Over two hundred and fifty years ago (1683) Dr. Sydenham wrote such a classical description of his own experience with recurring attacks of gout, over a period of thirty-five years, that it remains today very largely as the "teachers guide" with few additions or changes.

About 1500 years after Galen's pronouncement, Schule (1776), made a chemical study of the tophi and stated they were composed of urates.

Nearly another century rolls around before new thought is added. In 1858 Barclay, in his Medical Diagnosis says: "The researches of recent times have gradually led to the discovery of an important element in gout—the presence of an excess of uric acid in the blood. This knowledge holds out a prospect of our arriving ultimately at more accurate diagnosis; at present it is only in the hands of a few that such a chemical test can be relied on. But we may derive from the mode of its attack, pretty certain indications of the nature of this disease."

About this time (1859) Garrod wrote his treatise on gout. He also remarked the increase of Uric Acid in the blood and was uncertain whether it was due to an increased formation or decreased elimination. A few years later (1871, Trousseau, in writing of the biochemists theory of the gouty diathesis says: "It must be admitted, that the starting-point of their theory rests upon a fact which is incontestable, and which I shall explain to you by and bye; the fact to which I refer is the presence in excess in the blood and other parts of the organism of gouty persons of uric acid and the urates. But before the conclusion at which the chemists have arrived can be admitted, viz. that this excess of uric acid and urates is really the MATERIES MORBI, we must be sure that the uric acid diathesis is found exclusively in gouty persons.

"Dr. Garrod has shown that uric acid may exist in the blood, in quantities varying with the time which has elapsed since the last meal, in persons in the enjoyment of perfect health, and who are not gouty. Again, in respect of the pathological state, uric acid and the urates are met with in other diseases besides gout. I do not cite articular rheumatism in support of this statement, because some physicians look on

it as a form of gout, but I refer to intermittent fevers, in which the existence of the uric acid diathesis has been established, when care has been taken to analyse the blood in the first stage of the fever. It is also found in a high degree in persons who have been subject for a long time to low diet.

"Let us grant for a moment that the presence of uric acid is the essential cause of the disease, how can we explain why it should happen that out of a hundred individuals placed in the same hygienic conditions, living precisely the same manner, eating precisely similar food, one person only should have gout. How is it that the mode of life, the alimentation favourable to the excessive production of uric acid and the urates, and their accumulation in certain parts of the organism, should only produce the uric acid diathesis in ninety-nine cases in a hundred? How are we to explain the fact, that in a number of individuals leading a life of indolence, addicted to the pleasures of the table, sinning against all the laws of hygiene, not one should be gouty, while we see others become martyrs to gout, although they have always led a most active, and abstemious life? How are we to explain these differences, unless it be, I repeat, by admitting the existence of an idiosyncrasy, an individual organic predisposition of an altogether peculiar character? **IT IS THIS PREDISPOSITION WHICH WE CALL THE GOUTY DIATHESIS.**" And it is to this predisposition and gouty diathesis that we shall later invite your attention.

In the meantime, research workers have been interesting themselves with the question: How and why do the urates form tophi in joints or soft tissues?

Levison and Dorsett² made the interesting observation that: "In all described cases of gout in which the post-mortem examination is mentioned the kidneys have been found diseased, and in almost all cases they were suffering from granular atrophy.

"In all cases of granular atrophy of the kidneys, the power of elimination of the kidneys as regards uric acid, as well as various other substances, is diminished.

"Gout and its principal symptom—the deposition

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of blurates—occur when the blood remains for some time overcharged with uric acid which cannot be eliminated by the kidneys on account of a decrease of their secretory power, which in turn, is caused (with very few exceptions) by granular atrophy more or less distinctly developed. In all cases of gout the kidneys are diseased, and the gout can never develop as long as the kidneys remain healthy."

This brings us to the very pregnant speculation that in all possibility and some probability the uric acid phase of the phenomena may be entirely accounted for by the continued ingestion of excessive amounts of purin producing foods with a gradual building up of an increasing uricemia which, through continuous deposits of the urate crystals in the kidney parenchyma, gradually reduces them to a state incapable of replying to the demand for other than very slow elimination. This would account for the retention. The deposit and site of deposit may parallel that of calcium during a period of hypercalcemia. The interesting feature in both an hypercalcemia and a uricemia is that no joint change would take place if we will prevent the primary edema.

Osler's³ definition of gout in 1912 differed from Sydenham's given 230 years previously, more in terminology than in pathological or biochemical changes, to-wit: "A disorder of metabolism associated with retention of uric acid and of other purin bodies in the body, characterized clinically by attacks of acute arthritis, the deposition of sodium-biurate in and about the joints, and by the occurrence of irregular constitutional symptoms."

He (Osler) further said: "Gout cannot be regard-

ed as loss of the power of a given individual to destroy uric acid, since this does not appear to be an active function in the human body. Loss of power to eliminate favors the deposition of uric acid, and individuals who cannot get rid easily of their purins endogenous or exogenous, may be said to be gouty."

The terms Podagra and Gout should be deleted from medical nomenclature. Podagra is in particular most objectional as it refers to a diminutive part, only, of the total syndrome it was originally supposed to designate. The term gout might be relegated to the limbo of outmoded or superfluous terms and Uricemia substituted therefor. This would allow us to place the inflammatory joint condition back in the category of arthritis where it belongs.

Many authors include such symptoms as dyspepsia, skin diseases, myalgia, neuralgia, arteriosclerosis and various diseases of the kidneys as being part of the Gout picture. They even name such skin manifestations as erythema, eczema, psoriasis, prurigo, acne and urticaria as being of a "gouty" origin. If this be true certainly Gout and allergy have much in common.

It is well known that the x-ray findings in all acute joints are identical, an edema only. The picture of gout and chronic arthritis are practically indistinguishable. DeCub⁴ says: "Gout and chronic arthritis have x-ray signs in common, particularly when the roentgenograms concern the hands and feet. In gout, there may develop destruction of articular cartilage, erosion of articular surfaces, and marginal lip-ping. But there is little if any osteoporosis, no punched out areas, and the destruction at the bone-

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ends is rounded and well-defined.

Quoting from Sajous²: "Chauffard and M. Wolf (Presse med., Dec. 5, 1923) confirmed the former's earlier observation that the blood **cholesterol** is increased in gout and that it is present in tophi. It is situated in the center of the tophus, while sodium urate is at the periphery. A fibrocellular and giant cell reaction surrounds these substances. The central position of the cholesterol is similar to that in gall-stones and aortic atheroma. Chauffard always found in hypercholesterolemia a tendency to the formation of deposits of the substance. Articular tophi, however, are neither a constant lesion in gout nor its exclusive manifestation. Letulle and M. P. Weil (Ibid., July 9, 1924) believe that the lesions described by them are not the consequence of the precipitation of urate salts within the cartilages, but that, on the contrary, they may perhaps be the cause of this precipitation. These changes in the cartilages, at any rate, appear to be one of the primary manifestations of gouty arthropathies and the direct consequence of specific humoral disorders. They also seem to be the probable cause of most of the joint manifestations characteristic of gout."

Foch¹⁰ has reported a patient ill for ten years with the usual symptoms ascribed to gout including severe pains in the joints and hard deposits under the skin of the fingers, toes and arms. Examination of some of the removed material showed it to be composed of tricalcium phosphate, 57%; calcium carbonate, 17% and organic constituents, 23%. No urate of soda was mentioned.

During this decade it seems that some serious consideration was given the study of gout, but even yet the findings are negative rather than positive. But certainly the situation is different now from when Barclay (1858) said that only a few had the advantage of chemistry.

We now find Black⁴ reporting: "The popular idea that the urine is loaded with **uric acid** in gout has no basis; in fact, there is a diminished excretion as compared with that of normal individuals." He attempted to produce sodium urate deposits by injecting uric acid in large doses intravenously in the joints of rabbits which had previously received injections of organisms from acute rheumatic cases. Some rabbits developed typical rheumatic joints, but no sodium urate deposits. The experiments were repeated on rabbits, with uranium nephritis, with equally poor results. He says: "A diagnosis of gout seems warranted, in the absence of proved sodium urate deposits, in a patient who has had one or more attacks of acute inflammation with a blood uric acid above 5 mgm. per 100 cc. The characteristic punched-out areas in the proximal phalanges are suggestive evidence of the disease. The factors predisposing to gout lie beyond the mere metabolism of uric acid."

Inasmuch as this was the era of focal infection there were some so bold as to recommend the removal of foci in the treatment of gout following the fad then in vogue for the relief of the arthritides. Most authors writing on gout refer to chronic gout as the result of several attacks of acute gout.

All in all, the sum and substance of the opinions expressed up to this point lead us to the conclusion that, accompanying the so-called gouty joint; (a) there is an increase of Uric Acid in the blood. (b)

there is a decreased elimination of the urates—usually due to granular atrophy of the kidneys; (c) sometimes the urate of Soda is deposited in or around a joint or in soft tissue; (d) many attacks of gout may take place without deposit of urates, constituting recurring acute gouty attacks; (e) gout is not chronic until a deposit in or around a joint takes place; (f) it is not known why urates are deposited in or around the joint of some individual (during an inflammatory process of the joint) and ninety and nine others, similarly affected, escape; (g) gout cannot be produced synthetically by the injection of excessive amounts of uric acid; causing nephritis and duplicating the conditions usually considered necessary to an attack of gout. (h) The only pathognomonic sign distinguishing gout from any other form of arthritis is a uricemia of 5 mg. or more per 100 cc. of blood.

The present day observers in the field of joint morbidity—arthritic and gouty—are concerned with the mineral balance of the blood plasma and the endocrinology governing that balance. Lockie and Hubbard⁵ have made an excellent report on four cases of gout in whom exacerbations could be brought on at will by increasing the pro rata fat and decreasing the carbohydrate in a measured diet. It is unfortunate that their blood chemistry study omitted mention of the serum-calcium, serum-phosphorus or phosphate content. It has been claimed that the phosphoric acid and uric acid curves are practically parallel. If this is a constant finding it may have a very enlightening significance in as much as the phosphoric balance is very definitely dependent upon the serum-calcium level which in turn is governed by the activity of the Parathyroids.

It would seem logical to assume that if an hypertrophic joint may be due to an hypercalcemia occurring when the kidneys are more or less impervious to quick elimination of the plasma held calcium-phosphorus seeking a release and finding a soft boggy joint surface as a dumping ground, as the only alternative, then this same precipitation routine may occur with the urates and be governed by the same or similar agencies. To get down to a workable basis it is necessary for us to conceive of the primary state in any non-septic joint change—atrophic, hypertrophic, gouty, acute or chronic—as being allergic or traumatic—in other words as an edematous or swollen synovia or periosteum—before any deposit of mineral salts can take place from without or absorption from within. The finger-print, distinguishing mark

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of a gouty joint is a urate deposit; that of an arthritic joint, a calcium disturbance. This makes a fair diagnostic distinction but if we do not conceive the underlying state as being one and the same, with the plasma chemistry as a mere coincidence due to other causes than that producing the joint edema, we are going to be in the dark when it comes to the management of the current attack and prevention of recurrences. We must reverse the idea held by many physicians, nearly 200 years ago, that arthritis was very probably an atypical gouty manifestation and assume that gout is without doubt part of the arthritic syndrome.

Gudzent,⁶ as early as 1926, denies the causal relationship between uric acid and the attack of gout. He says the acute attack seems to be of an allergic nature and is induced by individually different elements of food. He has recently stated that after finding a patient who had a severe attack of gout every time he drank milk, he looked around for similar cases and found a number of persons with gout who gave positive skin reactions to tests with ordinary foods and removing these foods from the diet resulted in symptomatic improvement. His conclusion is that the acute attack of gout is due to allergy and not to a deposit of urates.

In the cases reported by Lockie and Hubbard⁵—above quoted—no effort was made or evidence exhibited to show these cases were not allergies. In Osler's Practice we find a thought very similar to the idea conveyed by these observers. He said: "among the directly EXCITING CAUSES of an attack may be mentioned a meal with large quantities of rich food and too much to drink; worry, or a sudden mental

shock, and in sensitive persons a slight injury or accident may be followed by acute arthritis. Dr. Oelgoetz⁷ of Columbus, Ohio, has recently reported on his experimental work in food allergy of Pancreatic origin and thinks that an atrophic reaction is due to the ingestion or absorption of a quantity of proteid in excess of the amount that the normal enzyme content of the blood can split and therefore some of this unchanged proteid remains to contact anyone of the various tissues of the body as an irritant or foreign body causing an allergic reaction at whatever point it happens to select.

This Pancreatic type of allergy may well account for the reactions noted in the four patients of Lockie and Hubbard and all of those whom Osler had in mind who were known to have ingested quantities of food far in excess of any normal person's ability to properly dispose of.

These same authors (Lockie and Hubbard)⁵ have concluded their study by offering a dietary diagnostic criterion for suspected gouty subjects. Quoting: "Since patients with gout appear regularly to experience an exacerbation of joint symptoms when they are fed diets high in fat, and since other groups of patients do not do so, we propose the following test for differentiating gout from various forms of chronic arthritis: Feed a diet consisting of from 250 to 350 gms. of fat, 50 Gm. of protein and from 30 to 50 Gm. of carbohydrate for a period of from five to seven days. If within that time pain in the joints has developed, if existing mild joint pains have markedly increased in severity, a diagnosis of gout must be carefully considered. The symptoms that may develop can be promptly re-

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lieved by feeding a diet high in carbohydrate and low in fat."

If the allergic theory of these reactions is to be maintained, then this test would not be one proving gout but rather confirming the patients inability to handle an overdose of proteid—whether measured by the lipid enzyme balance or some other unknown method of producing edema.

It is more plausible to assume that all of these cases were of an allergic nature than to consider them in any other light in as much as there was merely an highly edematous joint structure that returned to normal without any foreign deposit or absorption.

What constitutes a predisposition to gout or the gouty diathesis? In attempting an analysis of this heritage, we must first consider that practically every concurrent morbidity noted in the past has been set down as part and parcel of the gouty condition. If we are disposed to not consider arteriosclerosis, dyspepsia, colitis, constipation, "torpid liver," skin manifestations (other than urate deposits) and the various degenerative changes in kidneys as gout or as being part of the joint disturbance, we have remaining a picture of acute arthritis and a blood chemistry showing an accumulation of uric acid and purin bodies.

At this point we should consider that an excessive uric acid retention often occurs in some febrile states, gormandizing, leukaemia, and in contracted and degenerative states of the kidneys without any joint symptoms whatever. Also, there are frequent depositions of uric salts in various soft tissues and it may be years later that a joint flares up—and then the whole syndrome, according to past teachings, becomes one of gout. In recent years it has been quite definitely shown by a number of writers that the accumulation of uric acid in the blood in an amount far in excess of 5 mg. per 100 cc., the minimum quantity set by Hench, Vansant and Nomland* as a diagnostic criterion for gout, causes no joint change. We are forced to the conclusion that the uric acid retention bears no causal relationship to gout, therefore it would seem that those cases of arthritis that are concurrent with an hyperuricemia have been taken out of the category of the arthritides and given a distinctive classification.

In so far as gouty attacks occurring noticeably frequent in those persons having eczema, erythema, psoriasis, prurigo, acne and urticaria, it is only to be expected that an individual allergic in one respect is more prone to other forms of allergic manifestations than one who is not allergic and has no allergic family history. We should therefore conclude that **THE PREDISPOSITION TO GOUT IS THE ALLERGIC STATE.**

From a most satisfactory clinical standpoint we may consider acute and chronic gout as an allergic joint reaction, its allergen being a food protein having as its prototype the Gonorrheal, and, or the Streptococcic inflammatory joint, allergic reactions to bacterial foci of infection. There is no good reason at this time to consider the gouty joint other than an arthritis with a preponderance of urates deposited in the edematous tissues rather than lime salts.

We have a very limited knowledge of the Parathyroid function. We know its hormone governs the serum-calcium balance. But the Parathyroids are made up of two kinds of cells i.e., the chief cells and

the oxyphile or eosinophile cells. The Parahormone is extracted from the whole gland. It is possible one set of cells may be antagonistic to the other; one may govern calcium absorption and suspension and the haphazard method of disposing of an unnecessary surplus may find its governing power in one or the other of these cells. It seems likely that the uric acid serum content is one of retention only and no endocrine connection will be found. So far no vitamin has been disclosed as aiding and abetting in the orderly distribution of the urates as in the instance of calcium and vitamin D. It is probable that none will be found as the urates are an end product of metabolism—an ash—while calcium is a necessary ingredient of structure and growth from foetal days to the end.

We are at the threshold of a more complete understanding of the phenomena arthritis than ever previously grasped. The mysterious materies morbi, so long guessed at as being some part of a changed metabolism, is about to give way to a very orderly and understandable sequence of morbid conditions that eventuates in either recovery or an atrophic or hypertrophic change in the joint structure.

It is incumbent upon us that we properly consider the so-called gouty joint as having its beginning exactly as all other arthritides and as merely a part of arthritis in general and thus let it share in whatever relief may be in store for sufferers from arthritis by this better understanding of their problem.

SUMMARY

Physicians were studying and writing of their ideas about gout for 2000 years before an analysis of the tophi disclosed that they were composed of urates. It took another hundred years to learn that the blood contained an excess of uric acid in the gouty disposed.

Uric acid has completely dominated the consideration of gout for the past century.

Refutation of the theory that uric acid bears a causal relation to gout, though slow in coming, is quite positive.

All joint changes are preceded by a swelling or edema of the synovia.

An hypercalcemia has to be concurrent with this swelling before calcium may be taken out or put in a joint—causing atrophic or hypertrophic arthritis.

An uricemia has to be concurrent with this swelling before a gouty joint results.

Practically all joint swellings—edemas—are allerg-

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ic in nature, reacting against either bacterial or food allergens.

The Calcium balance is under control of the Parathyroids. The Uric Acid accumulation is probably due to impermeable kidneys. The deposit takes place wherever there is the least resistance or the natural defense has been let down temporarily.

Gout should be considered as atypical arthritis.

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Urological Problems In General Practice

H. W. E. Walther, M.D.

Senior Urologist, Southern Baptist Hospital
New Orleans, La.

It is a source of concern to urologists that some in the medical profession still adopt a most indifferent attitude towards genito-urinary disorders. In some localities physicians openly announce that they will not treat such ailments. And occasionally, where a physician does administer treatment in some urogenital complaint, it is carried out in so haphazard a manner as to be of little or no avail. Just where to place the blame is a difficult matter. Whether the physician was trained improperly (or received no instruction on the subject) while at college; whether journal articles or text-books confuse him rather than elucidate a rational therapeutic scheme; or, whether the urologists themselves, in their enthusiasm to bring before their confreres the more spectacular phases of their surgical ingenuity, are remiss in their duty of keeping the profession abreast of the times—this is a matter for some one better qualified than myself to explain. However, I cannot but feel that the urologist is to blame for much of the misunderstanding within our ranks as regards the status of present-day treatment. It is my purpose to partly clarify the situation, as best I can, even if one must limit such a discussion to bare essentials. The suggestions offered concern aids in the management of: (1) urethritis, (2) prostatitis, (3) epididymitis, (4) stricture, (5) chancroid and (6) syphilis.

URETHRITIS

A stained smear of pus obtained from the urethral meatus and examined microscopically will readily determine if the discharge is sterile or whether the organisms present point to specific or non-specific infection. Not all inflammatory lesions of the urethra are neisserian; the microscope alone decides the diagnosis. If the practitioner is not equipped to study such smears, he should send them to the County or State health department laboratories for diagnosis. Occasionally a sterile discharge points to urethral chancre; this fact must not be lost sight of. Pal-

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pating the urethra for an induration will often clear up this point.

Having determined the cause of the discharge one next wishes to know the extent of the process. This is revealed by the two-glass test and, while this is but a gross means of observing the case, it serves for all practical purposes. The contents of the first glass represent the washings of the anterior-posterior urethra; the second glass, that of the prostate, bladder and kidneys. Where both glasses are cloudy, we know the prostate to be involved in infections of venereal origin. As most of the cases of urethritis presenting themselves for treatment are either sub-acute or chronic by the time they consult the physician, both glasses will show a haze or a frank cloudy appearance. Unless taken very early, cases of urethritis show an invasion to the posterior urethra and prostate within a week or ten days following onset of infection. If the patient be married, it is necessary to insist upon examining the mate for infection; only in this way can we deal effectively with the problem.

The more simple the treatment directed at this condition, the better will be the results. As the infection invariably perpetuates itself by digging its way in the gland structures it is obvious that systemic as well as local treatment is demanded. Hypodermic injections of specific bacteriophage, such as the Neiso-Lysate (Lilly), beginning with doses of 0.1 cc. every four days, increasing up to 0.3 cc. and continuing this plan until the case appears completely controlled, have proven to be a valued aid, not only in shortening the duration of the infection but also in minimizing complications.

Pyridium Tablets (Merck) by mouth, two 0.1 gram tablets, three time a day, between meals, is the best oral urinary antiseptic we have in urethritis and should be given in every case. The dye stains the urine a brick-red color and acts equally well in acid or alkaline urines. Its sedative effect on the mucosa surpasses the balsams.

Locally, all self-treatment is forbidden. We have found that less than 5 percent of patients take hand injections properly; the majority do themselves more harm than good by attempting it. The case reports daily, until the discharge is well under control, and receives an irrigation of 1:5,000 solution of Neutral Acriflavine (Abbott). After a week or ten days the patient reports to the office only three times a week, for treatment, until cured. Irrigations are best carried out with the patient flat on his back on the treatment table; better relaxation is thereby obtained. Where the posterior urethra is involved, instillations of 2 drams of a ½ percent solution of silver nitrate, given through a Guyon silk-gum, olive tipped 14 F. instillation catheter, every four days; we alternate the instillations with irrigations through to the bladder in posterior involvement. Where the cut-off muscle resists the through and through washing, a preliminary injection into the urethra of 2 drams of a 2 per cent Metycaine (Lilly) solution, held in for five minutes, will furnish complete surface anesthesia and not further difficulty will be experienced in getting the irrigating fluid to enter the bladder.

A suspensory-bandage is prescribed as routine at the first office visit. All undue exercise, all sexual excitement and complete abstinence from alcoholic drinks is insisted upon. Unless the patient offers

reasonable cooperation, results are not to be expected. Some insist that their urethritis cases drink plenty of water. Certainly, an excessive consumption of fluids while taking an internal urinary antiseptic defeats the purpose of the medication; it is better to leave off the oral treatment while forcing fluids and limiting the water intake when administering the Pyridium.

Urethritis in women is probably the most neglected subject in all gynecological urology. The female presenting herself complaining of "burning" and a "discharge" is all too frequently sent on her way with a "sedative" and something to "douche" with. No examination of the genitals is made to localize the trouble; no smears are taken from the various structures to determine the specific organism. All of which is most unfortunate, for these infections are not difficult to treat (where the patient gives the necessary cooperation) and the results in our practice are as prompt and as pleasing as in dealing with urethritis in the male—sometimes more so. In neisserian urethritis in the female topical antiseptics applied by the physician daily give results. Here we find a ¼ per cent to a ½ per cent Pyridium solution in glycerine most helpful. After having the patient void urine, she is placed on the treatment table in a dorsal recumbent position, the external genitals are thoroughly cleansed and the local treatment applied: This is carried out by wrapping securely around the end of a wooden stick applicator (a long tooth-pick will do), for a length of three inches, a pledget of cotton; the applicator with lubricating jelly, it is introduced into glycerine mixture and, after coating the tip of the applicator with lubricating jelly, it is introduced into the urethra where it is allowed to remain for about fifteen minutes. This procedure must be carried out daily in order to obtain results; where too severe a local reaction occurs from daily care. (as is sometimes experienced in hyper-acute states), the applications are made every other day until she can tolerate daily attention. Hyperdemic injections of a specific bacteriophage, such as the Neiso-Lysate (Lilly) in gonorrhea or the Bacteriophage Coli (Upjohn) in non-specific urethritis, have proven a most valuable adjunct in treatment. Piridium Tablets (Merck) by mouth have proven a superior internal urinary antiseptic for these cases. The same hygienic rules apply to the female as to the male: no undue exercise, no sexual excitement and no alcoholic drinks.

PROSTATITIS

Conservative observers state that 80 per cent

DR. E. C. ELLETT
DR. R. O. RYCHENER
Ophthalmology
1720 Exchange Building
Memphis, Tenn.

HENRY G. RUDNER, M.D.

Clinic—Internal Medicine

1198 Madison Avenue

Memphis, Tenn.

of all urethral infections go posterior, sooner or later. All posterior urethral infections involve the prostate in some degree. This complication by far makes up the bulk of the urologist's office work. And whereas the majority of such invasions are of neisserian origin, some are unquestionably of a non-specific character. Unfortunately, too many practitioners overlook the prostate as a focus of infection in general complaints of middle life. Emphasis is properly placed on the eradication of infected foci in teeth, tonsils and sinuses; only too frequently the prostate is forgotten. Rectal palpation of the prostate gland and a study, microscopically, of the expressed secretion, should be routine in every physical examination in the male.

The prostate, it will be recalled, lies on the floor of the rectum a short distance from the anal sphincter. Its size, normally, is that of a fifty-cents piece; deviations from this should arouse suspicion. The two principal lobes are divided by a median sulcus and it is towards this central "gully" that the ducts drain. Massage by digital pressure—our principal means of effective treatment in prostatitis—is therefore carried out by extending the fingertip laterally to the outer limits of the gland and then swinging inwards towards the mid-line, making gentle pressure all while. First one lobe, then the other, is "stroked" in this fashion. Two or three "swings" over each lobe usually is sufficient. Gentleness is imperative here. It is very easy to aggravate the condition by unduly rough handling. Intervals between massages depend upon the stage of the infection and the reaction they pro-

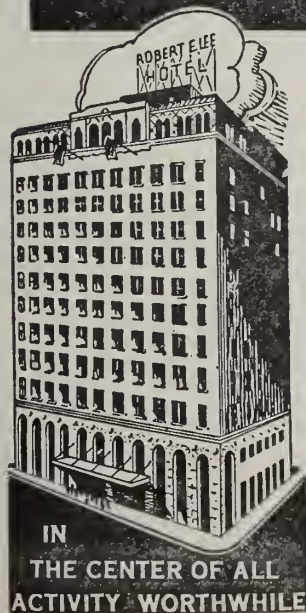
duce. In subacute conditions weekly "rubbings" may suffice; in chronic ailments to the gland two or three treatments weekly may prove of advantage. **The acutely swollen prostate is never massaged.** Rest in bed, where fever intervenes, shortens the convalescence. Daily subcutaneous injections of some polyvalent sero-bacterin, such as Edwil (Spicer), in 2 cc. doses, over a period of five days have proven a valuable supportive measure in our hands. By mouth, Pyridium Tablets (Merck) are found valuable here. Hot water rectal lavages, twice daily through a Boyd (Bard) tube, produce a form of hyperemia helpful especially in cases that border on prostatic abscess formation; it is, however, not easy to get patients to take them properly unless the individual consents to hospitalization. Rectal suppositories, containing Powdered Opium (gr. 1) and Extract of Belladonna Leaves (gr. ¼), used morning and night, relieve pain in the gland and minimize the bladder tenemus which often accompanies these conditions.

EPIDIDYMITIS

No complication of neisserian infection is more painful than epididymitis or more difficult to control. Patients with venereal infection wish invariably to conceal their ailment and, when advised to rest flat upon their backs in bed for a period of from several days to a week in order to reduce pain, swelling and fever, they often refuse such advice; the result is often an extension to the other epididymis. Bilateral epididymitis, as we know, usually sterilizes the in-

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dividual. For this reason it is important that the dangers accompanying neglect be explained to the patient.

The intense suffering that accompanies epididymitis is dual in origin: first, from tension of the swollen gland within an inelastic tunica vaginalis and, second, from the traction exerted upon the inflamed spermatic cord by the weight of the enlarged testicle. The wearing of a properly fitted suspensory-bandage gives relief to many abulatory cases. However, where this does not relieve, the patient had best be put to bed. Once at rest an adhesive plaster shelf, extending from thigh to thigh, about 8 inches wide and sufficiently long to extend half-way around the hip, with a notch cut so that the support fits snugly into the scrotal-perineal juncture, supplies excellent immobilization of the parts. We usually reinforce this shelf of two thicknesses of adhesive plaster by placing between them cardboard or a cigar-box top (also with a notch). All local treatment to the urethra and prostate must be suspended during an epididymitis. Specific bacteriophage as the Neiso-Lysate (Lilly) or a polyvalent serobacterin like Edwenil (Spicer) is most helpful, both in relieving pain as well as swelling. The ice-bag or the hot water bag is routine, the choice depending on the relief best obtained in the individual case. Keeping the bowels open is most essential. To the above therapy most cases will respond. When they do not, surgical intervention may be deemed imperative. As this most abbreviated communication is presented to aid the general practitioner, surgical procedures will not be gone into here.

STRICTURE

To do good work, the laborer must have good tools. This is nowhere more applicable than in the treatment of urethral stricture. The average set of steel sounds one observes now-a-days along the highways of medical travel, antiquated and liberally "embellished" with rust-spots or with areas where the nickel finish is peeling off and under which the rough metal is exposed—these are truly relics of barbarism from an age that is no longer tolerated among progressive medical men. In fact, steel instruments of any sort are not to be advised; they traumatise too much. The silk-woven, flexible bougies are the dilators of choice. Where "impassible" strictures are encountered, the Phillips (Bard) silk-woven urethral bougies, the tip of which is threaded to take a Phillips silk-woven filiform will, with patience, be found to pass through the most difficult constriction; by threading dilating bougies of increasing size on to the filiform, the stricture can be rapidly and safely dilated with a minimum of bleeding and pain. Before passing urethral instruments we always first anesthetize the urethra by injecting 2 drams of a 2 per cent solution of Metycaine (Lilly) and allowing same to remain 10 minutes; pain is thereby reduced to a minimum. Cocaine solutions should never be used.

CHANCROID

The venereal ulcer we know as chancroid, caused by the specific streptobacillus described by Ducrey, is seldom met with today as a definite entity. Secretion or scrapings taken from most penile sores will be found to contain a mixed infection, most commonly with these streptobacilli and the spirilla *Chaetia pallida*

of syphilis. A few will be found of chancroid alone. But scrapings from the lesion and, if negative, serum aspirated by needle from a palpable inguinal gland, should be obtained in every case and studied microscopically under the dark-field or in an india-ink smear. All such sores are best treated locally by the Rosenwald method introduced in 1923. The formula of both the solution and the paste are given herewith:

Rosenwald Solution:

Calomel	1 oz.
Zinc sulphate	2 oz.
Camphorated tincture opium	2 oz.
Lime water	8 oz.

To use, saturate a small pledget of cotton with this solution (after shaking the mixture), and apply to the ulcer. This is held in place by a bandage of gauze and adhesive plaster. It is allowed to remain for twenty-four hours only. Then apply:

Rosenwald Paste:

Zinc oxide	1 oz.
Starch	1 oz.
Boric acid	1 oz.
Gum camphor	1 oz.
3% Carbolated vaseline	12 oz.

This, too, is applied, beginning on the second day, on a pledget of cotton, daily, and kept on until the lesion heals. This works equally well in the local care of chancre or chancroid. Following the application of the solution one will note that the ulcer proper has been bleached dead white while the surrounding tissue remains unharmed. A day or so after the paste is begun the white plaque, which was once the infected lesion, will drop out leaving a healthy, granulating depression. This soon heals with continuation of the paste, usually within a week.

SYPHILIS

The leading syphilographers, both here and abroad, advocate the concurrent use of a heavy metal with arsenic in all luetic infections. Not only is continuous therapy superior to interrupted treatment but it appears that the concurrent use of drugs is paramount to the alternating plan. Obviously, we treat the patient rather than the disease; still we can hardly compromise with so devastating an affliction as syphilis. Treat the disease vigorously while ever keeping check on the patient's resistance by periodic urinalyses and examination of the gums and mouth generally.

Our clinical experience has convinced us that intramuscular administration of the principal anti-luetic drugs is superior to intravenous injections. Fur-

DICK CAUTHEN McCOOL, M.D.

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thermore, we feel that it is most important to avail ourselves of all three of the drugs commonly used in syphilis therapy, namely, bismuth, arsenic and mercury.

The plan we adopt is as follows: Twenty intramuscular injections of Bismarsen (D.R.L.—Abbott) at from five to seven day intervals. The initial dose is 0.1 gm., which tests the susceptibility of the patient. Sometimes we consider it best to give this smaller dose for two or three injections. Then we increase the dose to 0.2 gm., and continue the same. After the twenty bismarsen injections no rest period is given. Immediately we follow with twenty intramuscular administrations of either mercury potassium iodid, gr. $\frac{1}{2}$, mercury benzoate, gr. 1-3, or mercury succinimide, gr. 1-6. Some patients are found to tolerate one mercurial better than another and so we finally select, of the three soluble preparations mentioned, the one best fitted to the individual. Mercury intramuscularly is given every third, fifth or seventh day, depending upon tolerance.

Immediately following the mercury series, a second course of twenty bismarsen injections is given. In all, three arsenic-bismuth and three mercury series, extending over a period of approximately fifteen months, are administered without a rest. Such a plan of therapy in primary syphilis we consider rational; anything less than this is not adequate. A rest period of six weeks follows the fifteen months of treatment. Then a blood Wassermann is taken. If negative, the Wasserman is repeated every four months for at least two years. The above plan often effects a cure but should the Wassermann later be reported positive, the fifteen months of treatment is repeated.

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(To be continued)

Automobile Accidents Are Not Accidents

R. N. WHITFIELD, M.D.

Director, Vital Statistics
Mississippi State Board of Health

The sooner we get the proper perspective on this deplorable problem, the sooner we may get somewhere on the road to its solution.

Certainly, automobile wrecks and tragedies are **not** accidents, and should never have been so designated. They are due to **causes**, such as **automania**, criminal recklessness, criminal negligence, criminal carelessness, and just plain indifference.

Most of these regrettable occurrences are due to criminal recklessness—disregard for the safety of one's own life and the lives of others.

When you read the usual notices of deaths by automobiles in your paper tomorrow, just remember that they were not **accidents**, but **killings**.

Newspapers and statisticians should scrap the word "accident" in connection with this special form of violence, which is snuffing out the lives of nearly one hundred people in the United States every day.

Many individuals without thinking will say that this is an extreme statement, and an attempt to twist the facts. Let's get down to cases.

Suppose a fellow has tanked up in alcohol and driven off in his car. He knew before he imbibed this

fiery potion just how it would affect his senses; therefore, if he kills himself or some other person, it would not be an accident.

Furthermore, if one becomes more or less intoxicated and endeavors to walk across the street or down a highway he may be killed by an automobile, thereby more or less committing suicide.

If a fellow is driving in such haste that he must pass a vehicle at the top of a hill or around a curve, where in either case he cannot see sixty feet ahead, and smashes into another car coming his way, this is not an accident.

If a child runs out from behind an obstruction directly in front of a moving car and is struck, this is not an accident, even though the driver of the car is blameless.

A fellow perfectly sober and driving with all care may suddenly find himself and his car upside down in the ditch. This looks like an accident, but isn't it reasonable to suppose he may have been careless about having his car inspected and everything put in order for safe driving?

We shudder when we think how many people are killed by automobiles in certain states every year.

In California over 2800 were killed this way last year; 2500 in Illinois; 3000 in New York; 2300 in Ohio; and over 2500 in Pennsylvania.

Just a few over 400 killed in Mississippi during the same period may give us a little comfort, but Mississippi had the highest automobile death rate in the whole United States with the single exception of South Carolina, and that state exceeds us only .4 of a death per ten million gallons of gas consumed.

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REPORT OF COMMITTEE ON INSANE HOSPITALS*

J. M. ACKER, JR., M.D., Chairman
Whitfield, Miss.

The president of the Mississippi State Hospital Association, my intimate and highly esteemed friend, Dr. V. B. Philpot, has seen fit to appoint committees to present reports at this annual meeting of the Association, of the work that has been accomplished during the year by the different standing committees. This is as it should be.

Never having heard a report from the Committee on Insane Hospitals in this Association, I am rather at a loss to know as to what has been reported done in the past. Dr. Lippincott in his letter to me asking that I serve as chairman, suggested that I mention some of the problems that confront institutions of this kind. As chairman, therefore, I beg to submit the following:

I suggest and recommend that in the future this committee be known as the "Committee on State Hospitals" and not as the "Committee on Insane Hospitals." Mental hospitals all over the country are known as state hospitals. The word "insane" may have been perfectly right and justifiable years and years ago when hospitals of this kind were more or less buildings or jails, if you please, for the confinement of these unfortunate persons. In the last decade or so great stride have been made in the treatment of the various psychoses and my recommendation along this line is that from now on this committee be known as the Committee on State Hospitals.

Our committee reports and believes that the two state hospitals in Mississippi have been doing a good work. At the present time we have in the two institutions approximately 3,400 persons. These unfortunates are being cared for sympathetically and scientifically. We have our problems and to my mind one of the greatest problems that confronts the proper operation of these hospitals is the inadequate appropriations. The Mississippi State Hospital, now located at Whitfield, for the last two years has had to operate on the ridiculously low figure of 37 cents per day per patient. This low amount includes the price of food for approximately 2,500 patients, salaries for employees and for the administrative forces of the institution, clothing for about 15 per cent of the inmates, and the expenses incurred for surgical supplies, medicines, etc. Of course the secret of being able to attempt such a thing lies in the fact that both institutions "live at home," in other words, raise and make most of the things they eat and use. Good work has been accomplished, but so much more could be done should the doctors and the citizens of the State interest themselves in the welfare and scientific treatment of these mentally sick persons.

Another great problem that confronts these institutions, and one that hinders and prevents to a great extent accurate diagnoses, is the incompleteness of histories that are required by law to be sent

ahead of these persons committed to these state hospitals for treatment. Having spent twenty-five years in the practice of medicine I realize that very few doctors over the state have acquainted themselves with the proper procedure in connection with admitting patients to these state hospitals. This is no fault of the doctors. They haven't been interested and most of us haven't stopped to think that the history of a mental case is just as important as the history of a physical case. Both of the state institutions furnish history blanks and if the directions are read carefully before completing same, few mistakes will be made. No matter whether or not a patient is committed by a jury or the certificate of two physicians and a citizen, these histories are absolutely necessary if a correct and accurate diagnosis is to be made. Our recommendation along this line is that the Mississippi State Hospital Association lend a helping hand in spreading the information that mental case histories should be as thorough and complete as any other good histories. My suggestion for the securing of complete histories in all cases would be the including on every lunacy jury of at least one doctor, preferably the family physician, who is familiar with the patient and who shall write the history and report his findings with recommendations to the jury.

On behalf of the two state institutions, I wish to thank the Association for allowing us to report and for giving us a place on the program. We have many more problems, but for fear of taking too much time and boring you further, we only ask that you allow yourselves to think of the state hospital when planning the many things to accomplish and the many things that I know will be accomplished by the Mississippi State Hospital Association.

J. M. ACKER, JR., M.D., Chairman
H. LOWRY RUSH, M.D.
GEORGE E. ADKINS, M.D.
F. B. LONG, M.D.
W. W. McRAE, M.D.
H. N. MAYES, M.D.

DISCUSSION

DR. C. D. MITCHELL, Gulfport: I have listened with a great deal of interest to this splendid and timely report of the very able and distinguished superintendent of the Mississippi Hospital. I want to congratulate Dr. Acker on this splendid report, and I want to commend you, Mr. President, for asking Dr. Acker to make a report of the state hospital.

I thoroughly and heartily agree with him when

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*Presented at the Sixth Annual Session of the Mississippi State Hospital Association, Biloxi, May 13, 1935.

he states that the hospital should no longer be known as the State Insane Hospital, but only as the State Hospital. Possibly it might have been permissible as long as they stayed in the old institution to call that institution an insane hospital, because it was built some 80 years ago when nothing was known about insanity. It was thought then that there was no treatment for those unfortunate people. It was believed that once insane always insane, and that the insane were possessed of devils, and those buildings were not built with any idea of hospital care, but only as jails or penitentiaries in which those unfortunate and pitiful people should be locked up and given only custodial care. But now, since they have moved into the new institution, one of the most modern and one of the best arranged institutions of its kind in this country, I say it is well that it be no longer known as the insane hospital but a state hospital where the most pitiable and most unfortunate people that God ever made can be cared for humanely, intelligently, sympathetically and given scientific and intelligent treatment. I agree with Dr. Acker when he says that his appropriation is entirely inadequate; but my friends, every state institution for the insane has been working for years on an utterly inadequate appropriation. For years I operated the Mississippi Asylum at Jackson on the lowest appropriation of any hospital in the United States. It is unthinkable that intelligent people could believe that you could care for these sick people—not only give them medical attention but nurse them, clothe them and feed them, care for and give them heat and light and water, bury them when they die and send for them when they run away, repair the damage they do when they often become obstreperous (they tear up the beds you give them—new ones)—on 37 cents per day. But I do believe that if the doctors of Mississippi could get interested, as Dr. Acker says, in the well being of these people and take an interest in those unfortunate people, that you can get a larger and more adequate appropriation.

For some several weeks you have been reading of the forgotten man, together with the pardon board. It is one of the commendable acts of Governor Conner to give consideration to those people, and I commend him, but my friends, the forgotten people of Mississippi are not at Parchman, they are out yonder in the hospitals at Jackson, at Whitfield and at Meridian, and if the doctors of Mississippi could get interested in their welfare, if the people of Mississippi would take an interest in those unfortunate people, it would not be long before the politicians would be unanimous in seeing that those people are adequately and humanely cared for.

Another obstacle that Dr. Acker calls to your attention is the incomplete histories, and he says that because the doctors do not know much if anything about insanity that they do not know the importance of this. I want to agree with Dr. Acker. The doctors of Mississippi do not know much about insanity, but what they do know is colossal to what the laymen know. Not only has the layman no information, but he has a vast amount of misinformation.

When I practiced medicine up at Pontotoc, I was called one day to see a patient in the country. When I got there I was met and told I was too late—the young man was dead. I went in and examined him

and soon saw that he was not dead; I administered stimulants and in a little bit he opened his eyes and there was great rejoicing among his people, and the young man saw there was some commotion and he asked what was the trouble. They told him they thought he was dead. He said, "I knew you all thought that, but I knew all the time I wasn't dead." They said, "how did you know you weren't dead?" and he said, "I was hungry and my feet were cold" and they asked him how in the world being hungry and his feet being cold led to the belief that he was not dead, and he said, "I knew if I was in Heaven I could not be hungry, and if I was in the other place my feet wouldn't be cold," and that is about the knowledge the doctors have of insane people.

When the laity sees a man with an abnormal temperature they know he is sick but that is all; they don't know whether it is typhoid or malaria. When the doctor sees a man with an abnormal behavior he knows he is insane and his first thought is to get him to Dr. Acker and off his hands. My friends, if the doctors would take more interest in these people I do believe that some of Dr. Acker's problems would be solved. One of the greatest problems I believe that the doctor has in handling these people is that the majority of these patients when he gets them are chronic; he does not get them in their incipency, when they can be cured. Nine cases out of ten that are admitted into your state institutions are chronic when they get there, and there is nothing to do save give those people custodial care as long as they live.

Mental diseases are not unlike physical diseases. Should a man develop tuberculosis, as soon as the doctor finds it he sends him down to Dr. Boswell, and he takes care of him and in a few months that man is sent back to his home well and sound. If that man, however, refuses to go to the Sanatorium, and waits until the doctor says, "If you don't do something for yourself you are going to die," when he goes to Dr. Boswell nine out of ten times he does die. So, my friends, with mental diseases. If Dr. Acker could get hold of these people when they first begin to notice their mental disturbance he could then cure them. Sixty-five to seventy-five percent of the mentally afflicted people of Mississippi could be restored to health if they could get them in their incipency. But we do not look upon mental diseases in the right light. We still think of them as a disgrace to the family. Why, we love to talk about our physical disabilities. An operation is an event in our lives, and at every social meeting it is taken up with the people

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discussing the narrow escape they had from passing through the dark valley of the shadow of death, but when mental symptoms develop they slip around the corner of the house and whisper in horror and they will not go to the state institution until some overt act demands that they be segregated and taken away for the welfare of the community. If the people of Mississippi could be led to understand that mental diseases could be cured, that it is no more disgrace to have a disease of the mind than of the body, that it is no more a shame or disgrace to have a disease of the mind than it is a disgrace to have a disease of the lungs, and if they recognize that and go to the doctor at their earliest symptoms, 65 to 75 percent of them would get well.

Now, my friends, there are many obstacles, a great many of them. These are just a few, but I could stand here and talk to you all day about the obstacles that Dr. Acker is going to have at his institution that he ought not to have because of ignorance on your part. I commend you doctors and I want to commend this Association for the interest you have taken in his work. It is a great work for you and a commendable work for you doctors to relieve pain and sickness and to save life, but it is a great work, my friends, to save the minds of these pitiable people. There is no picture that was ever painted, there is no statue that was ever carved, there is no work that was ever conceived of that is greater or grander or nobler than saving the lives and minds of your fellow men, and with this in view may you continue to labor earnestly, continuously and never ceasingly and may the blessings of the Most High soothe your cares, clear your vision and crown your efforts with reward.

Book Review

If your library lacks an up-to-date book on the behavior of infants, Dr. Evelyn Dewey has a new book which she calls "Behavior Development in Infants," and begins by defining "behavior as the neuromuscular and glandular reactions of living human organisms." Her study is based upon a period of fourteen years' observation of growth processes, neonatal and postnatal and gathered from the most eminent writings of behaviorists. Dr. Dewey goes into detail with her comparisons of data, but concludes with the viewpoint of an organismic concept of growth processes, emphasizing particularly the maturation of the nervous system. Yet, she respects the fact that the individual, as well as his environment, is a separate unit, and must be studied thus. However, her collection of observations are a very interesting study and will prove enlightening in any specific case, perhaps generally in solving mental disorders due to unhealthy nervous maturation.

Price \$3.50. Published by Columbia University Press, N. Y.

WALTER A. RUCH, M.D.

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PROGRAM and INVITATION of the NORTHEAST MISSISSIPPI THIRTEEN COUNTIES MEDICAL SOCIETY FOURTH QUARTERLY MEETING Tuesday, December 17, 1935 at TUPELO, MISSISSIPPI FIRST METHODIST CHURCH 1:00 p. m. Promptly

Each Doctor and his wife are invited to attend the banquet given by Thomas-Kincanno-Elkin Drug Co., Tupelo, one of Northeast Mississippi's oldest drug firms, following the Scientific Program.

S. R. DEANES
President

A. J. STACY
Secretary

— P R O G R A M —

Meeting Called to Order S. R. Deanes
President

Invocation Dr. H. F. Brooks
Pastor, First Methodist Church

Reading and Adoption of Minutes Last Meeting.

"The Treatment of Peripheral Vascular Disease by Means of Alternating Positive and Negative Pressure" Dr. Jim Green, Tupelo

"What the General Practitioner Should Know About Indication for Surgery in Tuberculosis" Dr. I. P. Burdine, Amory

"How the General Practitioner Can Cooperate With the Urologist in the Treatment of the Surgical Kidney" Dr. George R. Livermore, Memphis

"Dental Cripples" Dr. Felix J. Underwood
State Health Officer, Jackson, Miss.

Following Scientific Program, we will have election of officers for another year, and general business of interest to the Society.

A. J. STACY, Tupelo, Secretary

The True Economy of Dextri-Maltose

It is interesting to note that a fair average of the length of time an infant receives Dextri-Maltose is five months: That these five months are the most critical of the baby's life: That the difference in cost to the mother between Dextri-Maltose and the very cheapest carbohydrate, at most is only \$6 for this entire period—a few cents a day: That, in the end, it costs the mother less to employ regular medical attendance for her baby than to attempt to do her own feeding, which in numerous cases leads to a seriously sick baby eventually requiring the most costly medical attendance.

WANTED POSITION: X-ray and laboratory technician. Ten years' experience in doctor's office as technician, stenographer and bookkeeper. References. P. O. Box 681, Yazoo City, Mississippi.

Interesting Facts About Tuberculosis

LOGAN H. McLEAN

Executive Secretary Mississippi Tuberculosis Ass'n.
Sanatorium, Miss.

Archaeologists, digging in new-made pits of ancient earth, working carefully with hand and trowel, so that discoveries precious to science might be brought to light undamaged, uncovered the remains of a man dead ten thousand years. Examination of the long-forgotten bones revealed deformities due to tuberculosis. That this disease also existed in Egypt 3600 years ago is shown by evidence found in mummies recently exhumed.

Chinese history mentions it as early as 550 B. C., and 400 years before Christ the great Hippocrates named it phthisis, which means "wasting," or "consuming," hence consumption. Little was added to his knowledge for about 2000 years. Then it was learned that phthisis is characterized by microscopic lumps called tubercles in which the germs are found. This accounts for the name, "tuberculosis," by which the disease is called today.

Tuberculosis, called by John Bunyan, "Captain of the Men of Death," and by Oliver Wendell Holmes, "The Great White Plague," is the greatest killer of all time. Ancient plagues caused more deaths in certain short periods, but tuberculosis has destroyed life year in and year out to a more staggering total.

It has killed more people than all the wars of the ages. In the World War nearly nine million lives

were sacrificed in combat. Since that war more than twice that number have died of tuberculosis. All nations agree that the dreadful carnage of 1914-1918 must never be repeated. Why not outlaw the more destructive tuberculosis also?

One impending death from some strange illness excites the interest of everybody and is reported daily in all newspapers. Airplane and automobile crashes, tornadoes and floods, call for bold headlines, and the nation reads aghast the shocking news. But last year more than 70,000 Americans died of preventable tuberculosis, and only passive interest greets the tragic story.

Official tabulation of 471 homicides in our state in 1934 is "viewed with alarm" by advocates of law and order, who unite to deplore this shameful waste of human lives. Last year 409 persons were killed in Mississippi by automobiles. The spectacular news of these sudden tragedies impelled many civic groups to corrective action. Yet 1199 Mississippians died of tuberculosis last year, and little notice was taken outside stricken homes.

Recently an international gathering of boys in the National Capital was wisely cancelled because of the widespread incidence of infantile paralysis, which cruelly deforms but causes death in relatively few cases. This week 23 deaths in Mississippi will be caused by tuberculosis, which cruelly deforms children, saps the worker of earning power, and threatens all people so long as there is a single case in the community. Would it not be just as wise to call off this menace also?

Preventable tuberculosis caused 1199 deaths in this state last year. Only statistics to you, vague



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and doubtless dull. But to each of 1199 of your neighbors, a real, a personal death after a long, grim fight against fever and pain, sometimes against the gushing of blood from lungs diseased because of someone's ignorance. Every eight hours you can count a tuberculosis death in the state. Every one of them could have been prevented by adequate application of present knowledge.

Slowly, however, this old enemy is being pushed to the wall. Each stride forward in living standards, in medicine and in public health has reduced tuberculosis a little further. Knowledge has done it, for we know enough about it now to cure it and to stop its spread. To such extent as personal application is made of this knowledge, in like measure will the tragic toll be further reduced.

Tuberculosis is controllable but not yet controlled. Wonderful progress has been made against it. Fifty years ago it killed four times as many Americans as now, around 300,000 a year then, 70,000 now.

Many persons can remember when tuberculosis caused more deaths than any other disease. It is now seventh place as a killer in the United States, but fifth place in Mississippi. Heart disease, pneumonia, apoplexy, and nephritis claim more lives in this state, but most of these deaths come after the age of 60. Tuberculosis takes its toll among young people. It is the greatest destroyer of all between the ages of 15 and 45, when a person is of greatest value to nation, state and family.

Tuberculosis is the greatest foe of youth. It claims nearly one-fourth of Americans who die between the ages of 20 and 29. Perhaps the most tragic statistics of all reveal tuberculosis as claiming more lives among young women of this group than the other six leading causes of death combined. This is the age group in which most women establish homes, and in which they become mothers for the first time.

In 1914 there were 2490 tuberculosis deaths in this state. A higher mortality was reached in 1918, the year of the destructive influenza pandemic, when 2798 tuberculosis deaths were reported. From this high mark there has been an astounding reduction to 1199 deaths in 1934. Fifty-seven per cent less deaths from one cause now than 16 years ago! All credit to the family doctor, and to official and voluntary health agencies, who work together with a single purpose, the elimination of useless deaths.

Splendid progress, this. But last year 1199 deaths from tuberculosis occurred in Mississippi, and this did not include Mississippians who died of this disease in other states. When confronted with the knowledge that more than ten cases exist for each annual death, the startling figures of 12,000 actual cases flaunt a frightful signal to challenge the attention of every loyal citizen. **THE RESPONSIBILITY FOR THE COMMUNITY HEALTH DOES NOT REST ON THE SCIENTIFIC PEOPLE AND THE HEALTH DEPARTMENT ALONE. IT MUST BE THE CONCERN OF EVERY PERSON.**

The economic cost of tuberculosis is staggering. It cost the United States government more than 46 million dollars in 1932 for service connected compensation alone. The sum of \$400,090,176 was paid in compensation to World War veterans afflicted with tuberculosis between 1923 and 1932. This is one-third of the total amount paid on compensation, and it does

not include hospitalization.

Tuberculosis cuts off one and a half years from the complete expectation of life of all the people of the United States. Mississippi had 1199 deaths and 12,000 cases of it last year. What is the value of these lives and the cost in dollars of human suffering? We do not know, but tuberculosis is estimated to cost the United States more than a billion dollars annually in loss of earning power, expense of treatment and other incident costs. Assuming the population of the country at 130 million and of the state at two million, then one sixty-fifth of that cost is ours. That means that tuberculosis costs Mississippians more than fifteen million dollars a year. To be ultra-conservative, cut that figure in halves, and still tuberculosis costs this state more than 14 times as much as we are spending for all public health purposes, state, counties, sanatorium and all combined.

It is cheaper to control tuberculosis than not to do so. Knowing this, many states, even during depression have increased budgets for health protection, including tuberculosis control. Our state has reduced them.

For an adequate program of tuberculosis work, students of the problem have set the minimum sanatorium requirements at one bed for each annual death. In the nation as a whole this minimum has been exceeded. Some states have two beds for each annual death. On account of reduced appropriations, our State Tuberculosis Sanatorium has about one bed in use for every four deaths in the state. **ECONOMY CARRIED BEYOND THE MARGIN OF SAFETY BECOMES EXPENSE.**

There are many things the business man, the teacher, the housekeeper and every one of you can do toward the eradication of tuberculosis. You can have a medical examination every year, with special efforts to detect the beginnings of tuberculosis. Let your doctor decide.

If you are an employer of food-handlers, cook or nursemaid, you can make sure that every employe is in good health. Tuberculosis is especially prevalent among negroes, and it is not uncommon to find a servant with open tuberculosis milking, cooking, washing clothes, or nursing babies, scattering deadly germs in the most fertile places.

If there is or has been a case of tuberculosis in your home, you can take advantage of modern methods for examination of all members of the family. Many parents, grand parents, and teachers are found to be spreading massive infection to children, igno-

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rant of the fact that they themselves have tuberculosis. When there is a shadow of suspicion, let your doctor decide. He may make use of tuberculin, the sputum test, the stethoscope and, most important of all the X-ray, without which early tuberculosis often escapes the most highly trained specialists. With the X-ray, many cases are discovered before the patient becomes ill, often among persons who think themselves in perfect health.

You can watch for common danger signs. They are, too easily tired, loss of weight, persistent indigestion, a cough that hangs on, blood-spitting, pleurisy, nervousness and disturbed sleep. None of these signs may of itself mean that you have tuberculosis but any of them should be a signal to watch out for the disease. Any departure from health calls for an examination by the doctor. Let him decide by use of the diagnostic aids now at his command.

You can cover your mouth and nose when you cough or sneeze, and you can avoid people who do not take this precaution. Tubercle bacilli, which are so small that a thousand can pass through a pinhole without crowding, may live for hours suspended in the air in microscopic droplets emitted by coughs and sneezes.

You can do all these things and more, including an occasional word of encouragement to the workers in your health department. You can profitably get acquainted with them and their work. They are the finest people on earth, just as are any people who are in any calling because they had rather do that job than any other rather than because of what they can make out of it.

The task of controlling tuberculosis belongs to every person, old and young. The problem is as old as the ages and will challenge the best thought of mankind for a long time to come.

The challenge is accepted in all nations by societies whose purposes are the study of tuberculosis, dissemination of knowledge about it, and programs directed toward ultimate eradication. This society in America is the National Tuberculosis Association, with affiliated organizations in every state and possession of the nation.

The Mississippi Tuberculosis Association has, for more than 20 years, promoted programs of education, case-finding and prevention, its sole source of income the annual sale of Christmas Seals. With headquarters at Sanatorium, Mississippi, around which "University of Health" all tuberculosis activities in the state revolve, this organization is composed of county units in widely separated parts of the state. The volunteer workers of these groups, more than 200 of them, give at least ten dollars worth of personal service with every dollar they have to spend. In the entire state, the Association has only one full-time paid worker.

Christmas Seals accept the challenge as they have for 29 years. Thanksgiving marks the beginning of the sale throughout the state, the nation, and the world, of these mercy stickers which so many people use on Christmas cards, letters and packages, as well as on business mail during December. Though they sell for only \$1.00 a hundred, they present a striking example of the power of organized pennies. Since the first American Seal Sale in 1907, their total sale has amounted to more than \$75,000,000.

When you buy Christmas Seals, use them. They

are humanity's seal of compassion and they carry a double message. One tells that he who uses seals on his mail is interested in the protection of his home and yours against the menace of tuberculosis. The other appeals to him who receives mail bearing seals to also enlist in the mighty crusade they represent, a crusade with only one objective, the saving of lives.

Christmas Seals pay for isolation cottages, tuberculin, X-rays and other materials of prevention. They pay for research in quest of a specific cure and improved methods of treatment. This year alone they have paid for 30,000 books and pamphlets distributed in the state to doctors, hospitals, nurses, teachers, patients and their families—a constant spread of knowledge which no adversary can stop.

Knowledge alone can disarm the hosts of the "Captain of the Men of Death." Christmas Seals bring to every person the opportunity to help spread this knowledge to that "The Great White Plague" may be eradicated from the homes of mankind forever.

Dr. Pierce Named Medico President

Dr. D. O. Pierce, Jonestown, was elected president of the Clarksdale and Six Counties Medical Society recently, succeeding Dr. J. L. Nichols, Alligator. Dr. I. P. Carr, Clarksdale, was elected vice president from Coahoma County.

Other vice presidents are: Dr. J. L. Brookshire, Bolivar; Dr. Fred Stone, Quitman; Dr. J. A. Harris, Tallahatchie; Dr. H. E. Johnson, Tunica.

Dr. N. C. Knight was re-elected secretary-treasurer. Dr. W. S. Slaughter, Jonestown, was named to the board of censors to succeed Dr. D. O. Pierce. Terms of Dr. T. G. Hughes and Dr. LeRoy Wilkins, Clarksdale, are still in effect on the board.

Dr. T. M. Dye was elected as a member of the medico-legal defense to succeed the late Dr. J. W. Gray.

Delegates chosen to represent the organization at the state meeting in Jackson are: Dr. J. N. C. Knight and Dr. T. M. Dye.

Appearing on the program were Dr. S. D. Robinson, Clarksdale; Doctors Eugene Rosamond, H. G. Rudner and J. J. Shea, Memphis; Dr. Felix J. Underwood, Jackson; Dr. L. B. Austin, Rosedale; Dr. John Arrington, Yazoo City.

On a song and dance program, Misses Mary Lucille Birdsong, Elizabeth Ann Brock, Laura Serio, Georgia Gilliland, Bebe Ham, June Artman, Ruth Bush, Celia Irving and Mrs. Clark Fant participated.

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The Southern Medical Association

Mississippi was well represented by both the doctors and their wives at the Southern Medical Association in St. Louis November 19-22. It was a record meeting in many ways. The attendance reached the 3500 mark and broke attendance records. Perhaps St. Louis is most centrally located, but we must give much credit to St. Louis hospitality. The Jefferson Hotel, conveniently located and commodious, reserved a club-room for the doctors and a lounge for the wives and the Gold Room for general sessions. The Municipal Auditorium, where the clinical sections were all held, offered ample room for a record-breaking display of scientific exhibits. In addition, there was a constant round of entertainment provided by the St. Louis Medical Society, the St. Louis County Medical Society, and the Auxiliaries to these two societies.

A highlight of the meeting was the general public session held the first night, with the president, Dr. H. Marshall Taylor, Jacksonville, Florida, presiding. This session, to which the laity was invited, was the brain-child of Dr. C. P. Lorenz, of Birmingham, general manager for the association. On the program that evening Dr. Alton Ochsner, professor of surgery at Tulane, epitomized with admirable clarity the drama of "Pain in the Abdomen." He was followed by Dr. Seale Harris, of Birmingham, who departed from his professorial seriousness to present in a delightfully entertaining manner some salient facts on "Reducing Fads versus Simple Rational Reduction." Dr. Harris' remarks were cogent, substantiated, and evinced courage in speaking them. Dr. A. T. McCormack, one of the best public health men we know, brought a discourse of sound merit glorified into "The Romance of Immunization." The concluding address of the evening came from the dean of the St. Louis University School of Medicine, Rev. Alphonse M. Schwitalla. In a practical, summary glowing with tribute and praise, he descanted on "Society's Debts to the Doctor."

The second evening, or president's night, climaxed the meeting. In response to addresses of welcome from the presidents of both the St. Louis Medical Society and the Missouri State Medical Association, Dr. Stewart R. Roberts, past-president from Atlanta, Ga., with his characteristic wit panegyrized the hosts and Missouri. And following the Introduction of Presidents, Dr. H. Marshall Taylor, president, of Jacksonville, Fla., delivered an unique address on air-conditioning, commemorating the work of a man who achieved yet whose name is practically unknown, John Gorrie, who was first to conceive the idea of refrigeration and declared that he "Could make ice as well as God could." With lantern slides Dr. Taylor presented Gorrie's invention whose idea for air conditioning was to cut down yellow fever and malaria back in 1850, as well as to lower temperature.

Dr. Fred M. Hodges, radiologist, of Richmond, Va., was elected president for the coming year. Dr. Quitman U. Newell, associate professor of obstetrics and gynecology at Washington University School of Medicine, was chosen vice-president, and Dr. Joseph E. Knighton, Shreveport, La., internist, second vice-president.

Place of meeting next year—Baltimore, Maryland.

Letter to the Editor

W. H. Anderson, M.D.,
Booneville, Miss.,

Dear Doctor Anderson:

Your article on Dr. Bolivar Smith—a copy rather—more than ever convinces me that something along the line of a pension for old dependent physicians should be considered by the state medical society.

All physicians in good standing being eligible, the state secretary could easily take care of it for small salary, no real overhead. Suppose an initiation or entrance fee of \$10.00 was decided upon to establish a fund, then a yearly fee of \$5.00, on the death of a physician 50c or \$1.00 to cover two deaths. On recommendation of the President and Secretary of the county society, immediately \$10.00 per month would be provided to a needy physician. The home boys would know when a man was entitled to this assistance. Of course this should be worked out more in detail. If you think well of it, please help me to work it out. The matter is coming up at the next state meeting.

I wish to congratulate you on the splendid Journal you are giving us. Especially should David E. Guyton be recognized for his "Armistice, 1935."

Hoping you continued success.

I am yours truly,

R. M. STEPHENSON, M.D.

Lexington, Miss.

Southern Medical Auxiliary

Those doctors' wives who attended the recent meeting of the Southern Medical Association in St. Louis with their husbands recall with happy reminiscence the luncheons, teas, sight-seeing trips which brought you new acquaintances and renewed former ones. And no one forgets the inspiration gathered from the talks of Mrs. J. Bonar White, retiring president, and of the many other prominent guests on each occasion. It is evident that the auxiliary to any medical meeting is designed primarily for pleasure, a better acquaintanceship of doctors' wives, and to have an entree now and then that greater enables the doctor's wife's feeling for the profession, and glorifies her helpful position by the side of these men whose lives are dedicated to making life more abundant.

W. LIKELY SIMPSON, M.D.

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Tuberculosis Abstracts

The general practitioner is often in doubt as to whether a given case of tuberculosis would benefit by surgery and if so, what particular procedure to advise. Each case, of course, requires individual judgment, but it is only by studying the outcome of a large number of cases that a general appraisal of the several surgical procedures can be made. In a previous number of "Tuberculosis Abstracts" the results of pneumothorax, as evaluated by a committee which gathered data from all parts of the United States, were summarized. A somewhat similar study of thoracoplasty results was made by Carl A. Hedblom. Shortly after presenting his paper at the annual meeting of the National Tuberculosis Association in 1934 Dr. Hedblom died. His paper briefly abstracted below, which was published in the American Review of Tuberculosis of July, 1935, fittingly commemorates a life of generous and kindly service to many patients and invaluable contributions to medical science.

RESULTS OF SURGICAL TREATMENT

Surgical treatment of pulmonary tuberculosis includes all forms of mechanical collapse with the exception of that produced by pneumothorax therapy. It comprises extrapleural thoracoplasty, paralysis of the diaphragm, section of the scaleni muscles, pneumolysis with or without plombage, drainage of tuberculous cavities with secondary plastics and various combinations of these methods including that with pneumothorax. Other forms of surgical treatment still in the experimental stage are not considered in this study.

In trying to evaluate results of surgical treatment for pulmonary tuberculosis a diversity of variable factors may vitiate the significance of comparative statistics; for example, none of the various surgical procedures can be said to be standardized with respect to their technical aspects, the indications for the different procedures vary greatly and the time element is important. Nevertheless the statistics compiled as in any other field of clinical medicine, furnish a perspective and means of plotting the course of future trends.

The study is based on the author's experience with a series of 200 thoracoplasty cases, and on 4,535 from the literature. Statistical tables in the article support the author's summary, which is as follows:

Thoracoplasty

From one-quarter to nearly one-half the deaths following thoracoplasty within a period of five to ten years occur within the first eight weeks. The author's mortality in this period was 10.3 per cent; the combined mortality among 2,810 cases was 10.5 per cent. The individual variations among the series were from 3 to 20 per cent. The most frequent cause of death in the author's experience was cardiac failure and pulmonary complications. In a combined group of 230 deaths, death was reported to have been due to shock in 8 per cent, heart failure in 18 per cent, and pulmonary complications or extension of tuberculosis in 34 per cent. The mortality rate decreases progressively after the first few weeks. From one-half to two-thirds die during the first 6 months.

Among 3,762 patients followed for from one to twelve years after operation, 35.3 per cent were symptom- and bacillus-free and were able to work; 22.1 per cent were improved and able to do some work; 5.5 per cent were not improved or were made worse by the operation. 3.5 per cent were not traced; and 33.6 per cent were dead at the time of the report. A large proportion of the patients are rehabilitated to the extent that they are able to return to their former stations in life and to resume their former occupation or activities. Many women marry, and there is record of 22 who have borne children since their operation, usually against advice.

The variation in extent of partial thoracoplasty and relatively limited number of any one type followed for one or more years make an estimate of enduring results from them inconclusive. Among 236 collected cases followed for two years or more, 87.5 per cent were living, and 12.5 per cent were dead. Of the living, 53.4 per cent were reported as clinically well; of the deaths one-half occurred during the first weeks after operation.

Pneumolysis and Plombage

Of 307 cases observed during several months to several years, 53.4 per cent were clinically well, 18.5 per cent were improved, and 44.3 per cent were dead. Of the deaths, 40 per cent occurred during the first 8 weeks after operation.

Phrenicocoxaeresis as an Independent Procedure

This operation is performed for such a variety of indications and the chance of later recurrence of the disease following so limited a collapse is so considerable that prolonged observation of the patients in any one group will be necessary for a determination of late results. The results so far reported are conflicting, but a considerable number of enduring clinical cures are recorded.

A combination of methods has extended indications to include cases with bilateral lesions and has improved results.

Conclusions

The surgical treatment of pulmonary tuberculosis offers to properly selected patients not suitable for pneumothorax therapy the best if not the only prospect of a complete arrest of the disease and, when that cannot be achieved, a relief of symptoms and prolongation of life.

The proper selection of the patients and of methods and of the most opportune time for operation demands the closest collaboration of the phthisiotherap-

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ist and surgeon.

From one-quarter to one-half of the total deaths during the first ten years following thoracoplasty occur during the first 8 weeks and death is due largely to shock, cardiac failure, and pulmonary complications, all in considerable measure preventable through pre-operative preparation, through operation graded into stages according to the patient's condition, and watchful prolonged post-operative supervision. Such measures will extend indications for operation. Even though by so doing the total mortality is not reduced, more patients otherwise hopeless are given the chances it affords.

Deaths after the first 8 weeks are due largely to extension of the tuberculosis, in some measure preventable through primary adequate collapse, through secondary additional collapse or compression for recurrence, and through reasonable care of the health.

Adequate application of the method or combination of methods indicated, early in the disease before extensive destructive changes in the lung and before secondary visceral damage has occurred, will result in a minimal mortality, a maximal conservation of respiratory function, and in the greatest possible measure of rehabilitation.

The Results of Surgical Treatment of Pulmonary Tuberculosis, Carl A. Hedblom, Am. Rev. of Tuberc., July, 1935.

Relationship of the County Health Officer to His Community*

H. B. COTTRELL, M.D.

That we may properly understand the relationship of the County Health Officer to his community, we must first of all clearly recognize the relationship of the practicing physician to the state and community.

To the state the physician owes his right to practice his profession in the community in which he lives. The state through its constitutional powers, prescribes certain conditions which must be met by the physician before this right to practice can be conferred upon him. This serves as a protection both to the practicing physician and to the public against unqualified practitioners who may know little or nothing of medicine yet do a flourishing business among the more gullible through such mediums as so-called health-homes, health institutes, and through advertisements.

The state, being satisfied as to the qualifications of the one seeking to practice as a physician, issues a permit or license. This license is issued however with certain requirements and restrictions and it is under these conditions that every physician accepts the license to practice his profession. Among the requirements and restrictions and it is under these conditions that every physician accepts the license to practice his profession. Among the requirements imposed upon the physician are the reporting of births and deaths and the reporting of certain diseases which are communicable from one person to another. Among

the restrictions are the prohibition of the administration of certain drugs and the performance of certain operations, these prohibitory measures being for the public good.

The health officer is the official representative of the public and of the state. As such a representative, he is the official designated by the state to receive from the physician the various reports required from them by the state. This duty brings the health officer into frequent close relationships with the physicians, and the success which any health officer attains in the performance of his duty will be largely dependent upon the support and cooperation which he receives from the physicians in the community over which he has jurisdiction.

Health work has not, until recently, been done by a full time representative of the state. In the early history of the United States almost all public health work was done by practicing physicians as a part of their civic duty. As community responsibility in health matters became more apparent, it became the custom for local governments to employ physicians on a part-time basis to carry out certain community health functions such as isolation and quarantine, fumigation, sanitary inspection, medical examination of school children, etc.

The instituting of full-time health officers, especially trained for their work and with a suitable tenure of office, is a relatively recent advance in the public health field. Everyone familiar with the field of public health is aware of the fact that public health administration, epidemiology, vital statistics, public health laboratory work, health education, sanitary engineering, industrial hygiene, and the like are special techniques that require special training and experience.; In other words the health officer is a specialist in his chosen field of preventive medicine and sanitation just as is the pediatrician, the obstetrician, and the surgeon. However the establishment of this comparatively new specialty does not exclude the medical practitioner from a real and a responsible place in the public health field. As a matter of fact, preventive medicine will and should consume even more of the time of the practicing physician in the future than it has in the past.

The family doctor has come to realize that the members of his community can be made healthier and happier by the early detection and correction of minor deviations from normal than from curative measures applied after gross pathology has permanently marred the individual. The family physician is best suited to render this service through a personal relationship that no other agency can provide.

State and county societies throughout the country have seen the importance of the close cooperation and coordination of preventive and curative medicine. Such approval is shown in an editorial from "The Commercial Appeal" of September 11, 1935, which says:

"The Tennessee State Medical Association a

D. H. ANTHONY, M.D., F.A.C.S.

Eye, Ear, Nose & Throat

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Memphis, Tenn.

*Read before the Moorhead Meeting of the Delta Medical Society, October 9, 1935.

few days ago sponsored an announcement that it would hereafter encourage the practice of preventive medicine by its members and foster closer co-operation with local boards of health. While the move is now apparently only in its inception and therefore hardly subject to any very detailed comment, the trend is actually interesting and potentially most valuable. Without prejudice it may be said that the relationships between public health movements and the medical profession in general have at times been marked by a great deal more heat than light. Nor is that a state of affairs characteristic of Tennessee alone. It has really been an inevitable concomitant of the comparatively rapid development of public health services in the nation as a whole.

"To the informed layman, mindful of the exceedingly fine and many times unrecompensed service of the private practitioner in allaying suffering and combating disease, and at the same time aware of the constructive attitude and accomplishment of well-ordered public health departments, it has seemed all along preferable and possible that the two elements should co-operate cordially. There is no reason to doubt the continued need for strictly curative medicine and desirability of preventing measures. There is enough work to keep everybody busy for a long, long time to come, and the masses of the people are chiefly concerned with having the job done as efficiently and economically as possible. From the very nature of the case it is all but impossible for a physician to practice his profession along other than semiphilanthropic lines, which is no news to any doctor.

"Many physicians in many sections of the United States have been vocally apprehensive of state medicine, so-called, but if the members of the Tennessee State Medical Association succeeds in translating their present theory into practice, there will be small danger of it here for the simple reason that no cause for it will be present. It seems a move potentially most useful."

And just as the Tennessee State Medical Society has gone on record as encouraging the practice of preventive medicine through cooperation with local boards of health, so the American Medical Association is attempting to educate the public in health matters through the medium of radio health talks, pamphlets, and through the monthly publication, *Hygeia*, a journal of individual and community health. This disease prevention service is becoming more popular with the public but they are not yet ready to pay for preservation of health as they pay for restoration of health. For this reason the health officer is required to assume duties that he would much prefer the private physician to handle. He must serve as a press agent or field representative for the medical profession until the members of the community are educated to the point of looking to their family physician for disease prevention and expecting to pay for such a service. Then will the health officer gladly relinquish many of the duties now placed upon him.

In conclusion we must bear in mind that the relation of the health officer to his community is very similar to that of the practicing physician. They are both striving for the better health and thus the

greater happiness of the community. The goal is the same though it is reached by different paths. These paths cross one another frequently. There are certain phases of prevention medicine that must be handled by the family physician and there are others that can be better accomplished through the health officer. But at all times there remains that dependence, one on the other, and success is contingent upon mutual understanding and confidence. The requests that the health department make of the practicing physicians are not unreasonable ones. They represent a part of his public duty which the physician assumes when he enters medical practice. The health department has much to offer in exchange so that the final arrangement is one of mutual assistance and mutual advantage to the community.

Dr. Walker Elected by Medical Society; Dr. McLester Greeted

A group of 125 of the foremost physicians in this section of the state gave cordial greeting last night to Dr. Joseph S. McLester, of Birmingham, president of the American Medical Association, who was the honor guest at the annual meeting and banquet of the Central Medical Society.

It was by far the largest meeting in the history of the society, and among those present were members of the profession who came from the boundaries of other societies and associations to greet the "big medicine man" of America who heads an organization having more than 50,000 physicians within its membership.

Dr. E. L. Walker, of Magee, was elected president of the Society, to succeed Dr. W. B. Dodson of Jackson. Dr. L. W. Long and Dr. N. F. Kendall of Jackson, were re-elected secretary and treasurer, and the county vice-presidents named as follows:

Dr. W. S. Martin, Lake; Dr. A. P. Durfey, Madison; Dr. W. H. Watson, Rankin; Dr. W. H. Anderson, Scott; Dr. E. C. Walker, Simpson; Dr. S. D. Wood, Yazoo, and Dr. J. C. Walker, Hinds.

Among the notables present were:

Dr. James H. Hill, president, Mississippi Medical Association; Dr. H. F. Garrison, Jackson, president-elect Mississippi Medical Association; Dr. Felix Underwood, executive officer, state board of health and ex-president of the Southern Medical Association; Dr. W. H. Frizelle, Brookhaven; Dr. W. A. Dearman, Gulfport; Dr. John Darrington, member, state board of health; Dr. Jas. Acker, Whitfield; Dr. Willis Walley, Jackson; Dr. Jack W. Barksdale, Jackson; Dr. Percy Wall, speaker of house of delegates, Mississippi Medical Association; Dr. E. L. Wilkins, treasurer, Mississippi Medical Association; Dr. H. C. Ricks, state rural health director; Dr. Leon Lippincott, Vicksburg, editor, Mississippi Medical Association; Dr. Paul Gamble, Greenville; Dr. J. Gould Gardner, Columbia; Dr. Sam Eason of New Albany; Dr. W. L. Little, of Wesson, and Dr. J. W. Lipscomb, of Columbia, members of the state board of health.

A series of short and snappy addresses followed the banquet held in the main convention hall at the Robert E. Lee Hotel prior to the annual session for

discussion of professional topics.

Dr. John Darrington always clever, witty, captivating, a toastmaster par excellence, was presented for that role and right well did he fill it.

Dr. McLester, honor guest, delivered an interesting address setting forth some of the objectives of the medical fraternity in the United States. He outlined what is being accomplished by the various bureaus and committees of the big organization of 50,000 doctors, notably the bureau of medical economics the council of pharmacy and chemistry, the council on medical education, the committee on foods, etc.

"The American people," said Dr. McLester, "will eat anything in the world that may be offered to them that is said to be healthy," and at some length discussed the importance of truth in advertising as applied to food products and what the association is seeking to accomplish in making labels on cans reveal the true contents thereof.

Brief addresses were made by Dr. Paul Gamble, of Greenville; Dr. J. Gould Gardner, of Columbia; Dr. Hill, president of the Mississippi Medical Association, Dr. F. J. Underwood, and Maj. Frederick Sullens editor of the Daily News.

Dr. Gardner who is president of the Mississippi Hospital Association, outlined a program that organization has formed to present at the January session of the legislature to modernize and properly equip all charity hospitals in Mississippi, and also to make the charity hospital in Jackson a general hospital for the treatment of diseases and surgical work not possible in ordinary charity hospitals because of lack of equipment. The legislature, he said, will also be asked to make the medical school at the University of Mississippi a medical school in the highest sense of the word, providing the full four-year course.

Public Health News

VISITING HEALTH HEAD STILL FIGHTS "CONJURS"

"Medicine men" of witch doctors still hold sway over most of the 60,000,000 people in the East Indies, and are a handicap to the 1100 public health officials and physicians in the archipelago, Dr. J. Offringa, director of public service in the Netherlands, East Indies, said Tuesday.

Dr. Offringa, a kindly, grey-haired Hollander, who is to the Netherlands what the surgeon general is to the United States, being appointed by Queen Wilhemina, is in Mississippi, to inspect public health work here as the guest of the Rockefeller Foundation.

His post at Batavia, on Java Island in the Indian Ocean, brings him in contact with many public health problems which Mississippi shares, but which are easier to correct in Mississippi, he says.

"The natives fear the westerner, and our first job and greatest problem is overcoming that fear," he said. "When we prove to the native that his old ideas are false, he is willing to be treated by the western physician."

The natives are afflicted with hookworm a great deal, he explained, but they believe they are inhabited by "a ghost." Their village medicine men or conjurers understand them better than the white man and are able to perfect cures with their herb mixtures and "conjuring" to hold the faith of their "pa-

tients."

These medicine men have some knowledge of physics, Dr. Offringa said, which has been handed down to them through generations.

In an effort to overcome superstitious fear of modern public health methods, the Netherlands have established two medical schools in the islands, where native boys are being trained for physicians. They have greater success with their own people than the westerner.

Very little savagery is still found in the islands, Dr. Offringa said, although only 5 per cent of the people are literate.

"If the Netherlands East Indies were laid on the United States, they would stretch from San Francisco to New York," he said, "but very few tourists know much about the islands. They visit the tiny island of Bali, because it is famous for its temples and native customs, but they usually stay only a day or two, and they really see nothing."

Dr. Offringa, who is making his first visit to America, has been all over the world, but says he finds this country "the most magnificent." He is originally from Holland, but arrived at Batavia by a series of promotions and transfers in the public health service. And if anyone doesn't believe he is far from home, he invites them to have a look at an atlas. He reaches the Indies by leaving Holland through the North Sea and the English Channel, skirting France by way of the Bay of Biscay, entering the Mediterranean through the Strait of Gibraltar, and then traveling through the Suez Canal into the Red Sea. Next the ship enters the Gulf of Aden and passes into Indian Ocean, crossing to the island of Sumatra, which is another 36 hours from Batavia, on Java.

A different dialect is spoken on each of the islands in the East Indian archipelago, Dr. Offringa says, and often a different dialect is spoken on each side of an island, further complicating the duties of the public health officials who are trying to help the natives.

Dr. Offringa himself speaks several languages, among which is a grammatically-perfect English, and he also speaks two of the Indian dialects.

He was particularly impressed with the administration of the State Tuberculosis Sanatorium in Mississippi, and with malaria control work.—Jackson Daily News, October 1, 1935.

Jose Aguero, young administrator of the central health offices, of Cuba, visited Mississippi during September to study the organization and program of the State Board of Health.

Mr. Aguero was brought to the States through the cooperation of the Rockefeller Foundation. He was greatly interested in the Mississippi program because of similarity of Mississippi and Cuban health problems.

Dr. Underwood recently addressed the Washington County Council on the subject of "Possibilities and Responsibility for Health." This organization is composed of interested citizens in the county whose work it is to promote public health activities. Many of the counties having full-time health departments have active health councils which are of inestimable assistance.



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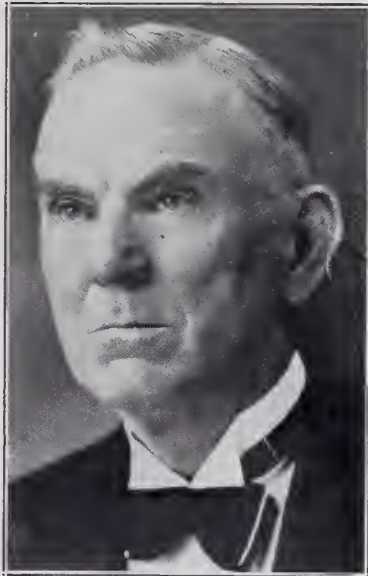
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The Mississippi Doctor

VOL. 13.

BOONEVILLE, MISSISSIPPI, JANUARY, 1936

NO. 8



DR. JIM R. HILL
Corinth, Miss.
President of the Mississippi State
Medical Association

He is waging an active campaign for an increased membership. Dr. Hill is worthy and well qualified in mind and heart for the presidency. His mind follows the truth like water runs down hill. He is a man of poise and reason guides his actions. Let us follow him in progress.

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Exhibitors of the Mid-South Post Graduate Medical Assembly

Below is a list of the exhibitors of the Mid-South Post Graduate Medical Assembly for the February meeting. We should deeply appreciate their cooperation. They are a big factor in financing this association. The men representing the companies help to boost the meeting. They tell members of the profession about the opportunities the association offers. They are our friends and we are theirs, should be. We are all working in a common cause.

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J. B. Lippincott Company, Philadelphia, Pa.

Middlewest Instrument Co., Chicago, Ill.



This is a likeness of Dr. Gilbert Levy. He has charge of the space for the exhibitors. He is efficient and he is courteous. He loves to do service. Much credit is due him for the success of the Mid-South. We should greatly appreciate his services.

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Petrolagar Laboratories, Long Island City, New York.

Duke Laboratories, Chicago, Ill.

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H. G. Fischer Company, Chicago, Ill.

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Baptist Memorial Hospital, Memphis, Tenn.

University of Tennessee, Memphis, Tenn.

Dr. John A. Killian—Vitamins, New York, N. Y.

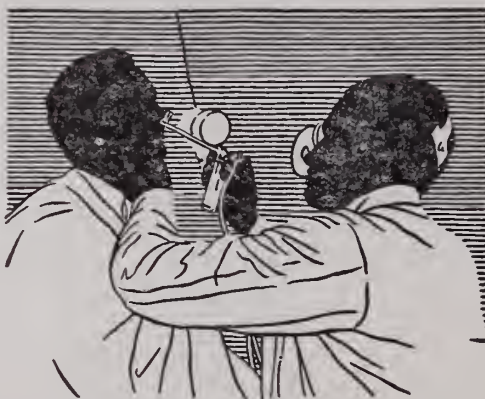
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Editors:		
Leon S. Lippincott, M.D.	J. W. D. Dicks, M.D.	D. W. Jones, M.D.

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Entered as second-class matter, January 18, 1926 at the post-office at Booneville, Miss., under the Act of March 3, 1870.

With this issue The Mississippi Doctor begins as the official organ of the Mississippi State Medical Association. This means a doubling of the circulation and an increase in the size of the journal. It multiplies the opportunities of the journal. It increases the responsibility of the editor. The Mississippi Doctor has had definite aims and specific plans. Its purpose is service, service to the medical profession and in turn to the people. It has contended all along that eighty-five percent of medical and surgical practice should be done by eighty-five percent of the practitioners. It believes yet that the general practitioner is the corner stone of the profession. At the same time the specialist is indispensable. The efficiency average of the general practitioner needs to be raised, it can be. His clinical knowledge needs to be carried up to the specialist, or down to him, whichever you think. There needs to be cooperation between the practitioner and the specialist, between the small and the large hospital. The country practitioner has an important role to play. It is important to know the traits, characteristics, and habitat of an offending organism; but at the same time it is just as important to know the sick patient, his history, personal characteristics, know him in all of his relations to life. The doctor out in the small town and rural community has an opportunity to know his patient so much better than the city specialist. So, the plain practitioner should not feel that he is unimportant in the profession's economy. Modern medicine for the masses at

a cost at which it may be utilized is the challenge. The general practitioner is under paid. His income must be increased. If we can use The Mississippi Doctor as a means to help solve these problems a needed service will be rendered. The journal can be the vehicle to carry your idea to some one else, to many others. Every practitioner has at least one idea, one clinical observation that deserves a place in medical history. We need collective thinking as well as individual. It often takes thousands of men thinking together and working and investigating to give birth to one scientific discovery. Mississippi and the Mid-South have their individual problems. The Mississippi Doctor desires to be the means through which the medical profession may be aided in solving them. We earnestly ask the sympathetic cooperation of every reader of this journal.

Dr. G. S. Bryan after being persistently urged, to write one editorial each month for The Mississippi Doctor, has consented. This we greatly appreciate because we are sure our readers will be benefited by it. He knows the history of medicine in our state as no other man does, perhaps. He knows public health work and he knows the ends and outs of an actual practice. He has a mind that inherently searches for the truth. He is profound in the theory of medicine and he is practical in the application of known medical truths. You will drink of his wisdom and be benefited.

At the request of our Editor-in-chief, I have promised to furnish The Mississippi Doctor a few "reminders" of medical men and happenings for each issue, for a time at least.

A new day and a new field of endeavor lies out before the journal since its adoption as the official organ for the Mississippi State Medical Association. Being the property and the representative of the largest component society in the Association it has always had the opportunity to prove its merit as a scientific publication. After its adoption by the Mid-South Medical Assembly its field and opportunities were very much enlarged. Now that it is the sponsor and organ of the State Association, it has the widest field and largest opportunities of any publication in the south, with the possible exception of the Southern Medical Journal. It is not an experiment—it is a "going" proposition and will meet the demands of the profession and the exigencies of the times and conditions. So I call on each member of the State Association to rally to its support and give it the loyal, faithful help that it is justly due. I feel confident that you will do this; for I know there is no finer, truer body of men to be found any where than the membership of Mississippi State Medical Association. "Do your duty tho the heavens fall"—I ask no more and I expect no less.

* * *

I joined The State Association in 1903. Since then much grist has passed thru the mill—much water has flown under the bridge. Men have come and men have gone, but the brook flows on. Much has been proposed and much has been done. Good and indifferent theories and claims have been offered and tried. But as is generally true, only the most worth while have survived. In the series of communications I propose to offer the readers of The Mississippi Doctor, I shall try to present those that may be of common interest. If I should get too far "off key," do as Major Bowes is forced to do—simply sound the gong and I will "get off the air."

G. S. B.

Who's Who in Mississippi Medicine will be one of our departments this year. We start off with Dr. Walker, of Magee. You will note his picture and read with interest what Dr. Henry Boswell had to say about him. In the medical profession Dr. Walker is the salt of the earth.

Natchez, Gulfport, Hattiesburg, Laurel, Meridian, Jackson, Vicksburg, Greenville and Houston are among the towns and cities that have outstanding hospital accommodations.

The faster you drive the more gas it takes and greater is the risk to human life.

The loss of Dr. William Kraus weighs heavily upon the profession of the Mid-South. He was a scientist in deed and in truth. He followed the path of duty. His life was really and truly dedicated to medical science. The type of service he rendered can not go unrewarded. Mississippi felt honored to have him at Meridian for some time.

As the year goes along we want to get better acquainted. In this issue you will find the pictures of the president of the state medical association, the secretary, and the council. We hope to have the state board of health and others at an early date.

Dr. Z. A. Dorsey, of Troy, Pontotoc county, is the new president of North East Mississippi Thirteen County Medical Society. He is worthy and well qualified. We will have more to say about him in the next issue.

Dr. B. S. Guyton is acting dean of the two year medical school at Ole Miss. No better man could be found. The two year course has proved its worth by the men it has turned out. It should be kept, we believe.

Dr. H. G. Waldrop, of Dumas, Miss., Tippah County, has moved to Caledonia. The people of this community regretted to give him up. He is a fine citizen and one of the best practitioners we have.

The obstetrical course brought out to the busy practitioner and taught by the able and princely Lapham is indeed a real blessing to the profession in Mississippi.

In the treatment of eclampsia, prevention is of the greatest importance. In the beginning do not overlook foci infection, and watch the weight of your patient.

If you expect the post operative course of your patient to be smooth and rapid, be kind and considerate to the tissues when you operate.

In the pregnant case keep the weight below twenty-five pounds gain, and treat foci of infection if you would prevent serious complications.

The doctors in practice are the best test of a medical school. This being true the two year course at Ole Miss should certainly be allowed to live.

We will thank you for a cooperative hand in making The Mississippi Doctor the best medical journal in the Mid-South, the most serviceable.

We expect to publish about five thousand copies of the journal in February boosting the Mid-South meeting in Memphis.

The Mississippi State Medical Association meets in Greenville next May. Dr. Fishbein, editor of the American Medical Journal, will be the chief speaker. We should turn out at least five thousand strong.

We are delighted to take the cooperative hand of Parke Davis & Company and thank them very graciously for their full page advertisement, trusting that it may prove of mutual benefit.

Dr. W. K. West, of Oklahoma City, is a brand new subscriber to The Mississippi Doctor. He is a native of Mississippi. We are delighted to have him on the growing list.

The Mississippi Doctor is a vehicle to carry forward medical service.

We deeply appreciate the encouragement coming from cooperative friends from over the state in the bigger undertaking of the journal.

It was very fitting for the profession to do honor to Dr. E. C. Ellett, of Memphis. It is good to see due respect paid to as big a man as he in his own home town.

The editor appreciated a brief visit from his friend and class mate, Dr. Lowe, formerly of Mississippi, but now of Tulsa, Okla., during the holidays.

We deeply appreciate the cooperation we are having from the doctors of Jackson with their courtesy cards. They are showing the right spirit.

Let us keep the two year medical school at Ole Miss and let us establish one of the best two year intern courses to be found in the country.

We deeply appreciate the full page advertisement of Eli Lilly which you will note on the page next to the editorial. Their aim is service and we like to join hands with them.

The more you put into organized medicine the more you are likely to get out.

Now let us develop Mississippi Medicine for Mississippians.

There is no one thing common or of small importance in the practice of medicine. The challenge to the profession is big and the opportunity is great.

There should be no combine between the practitioner and the public health department.

If the indigent sick deserve medical care they deserve good treatment.

The meeting of the North East Mississippi 13 County meeting at Tupelo, Dec. 17, 1935, was well attended and was a splendid meeting in every way. The papers were unusually good. Young Drs. Jim Green, of Tupelo, and Burdine, of Amory, have very fine papers, indicating careful and extensive preparation. You will read Dr. Green's paper in this issue, Dr. Burdine's a little later. We shall expect these two young fellows to be outstanding leaders in our society. The courtly and scholarly George R. Livermore, of Memphis, read a most practicable paper. Our Dr. Felix J. Underwood rang the bell with his paper on dental cripples. The four papers at this meeting are worth more than the price of the journal. We missed our president, Dr. S. R. Deanes. Dr. Hunter Scales, of Starkville, keen in intellect and strong in convictions, had some things to say about state charity hospitals and our Sanatorium at McGee. Dr. Scales just speaks out what he thinks. He gave us a cordial invitation to go to Starkville in March and we plan to be with him in big numbers.

Dr. Dorsey, of Troy, was elected president and Dr. A. J. Stacy secretary.

The entertainment at the Tupelo Hotel by the Thomas-Kincannon-Elkin Drug Co. was very elaborate. It was indeed a wonderful treat. It was deeply appreciated by the doctors and their wives of this society.

Dr. R. H. Jafee, director of laboratories at Cook County Hospital, Chicago, will come to Memphis next month to lecture on leukemia before the Mid-South Post Graduate Medical Assembly.

Dr. Jafee is one of the 24 lecturers who will address the convention February 11-14 at Hotel Peabody. More than 1000 physicians in southern states will attend.

It will be the 52nd annual session of the assembly and Dr. A. F. Cooper, Memphis, Secretary-treasurer, expects a record attendance.

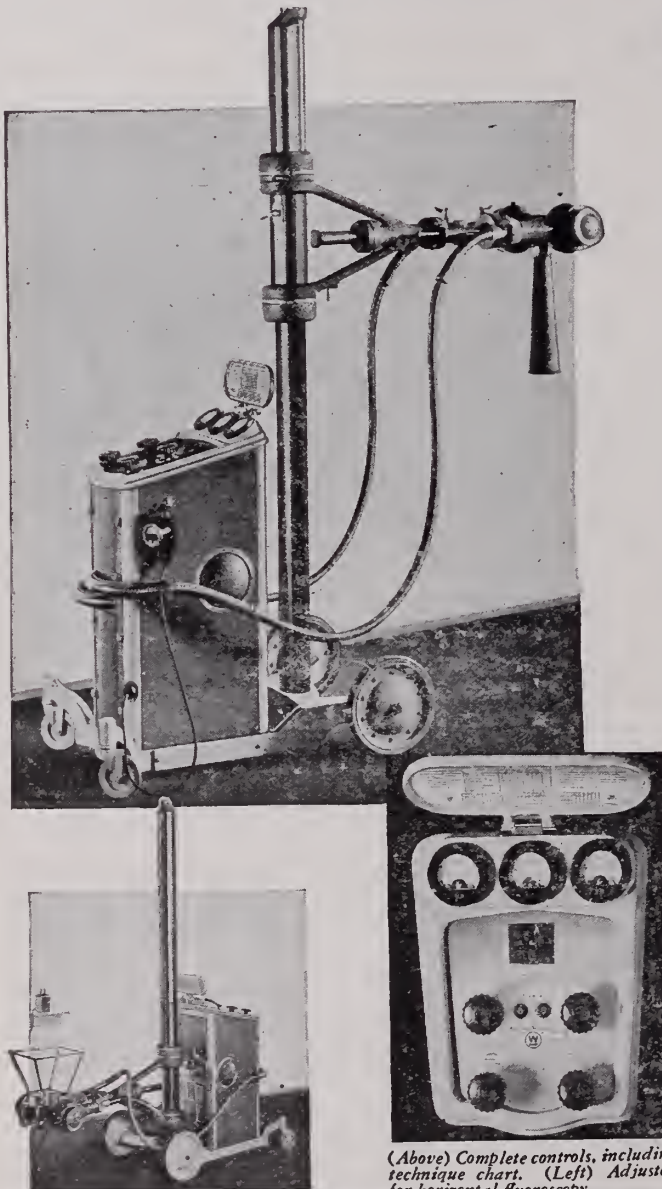
Dr. C. H. Sanford, Memphis, is chairman of the program committee and Dr. Gilbert J. Levy is director of exhibits. Dr. H. King Wade, Hot Springs, Ark., is president, and Dr. C. R. Crutchfield, of Nashville, is president-elect.

We are sorry our space was a bit overrun and we had to leave out two or three pages of news. We will order some more space by next time.

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_____.M.D.

Mastoid Complications: A Clinical Discussion*

ROBERT E. PARRISH, M.D.
San Antonio, Texas

In taking up such an extensive subject as mastoid complications, it is necessary to limit this discussion to some of the clinical considerations pertaining to a group of the more common complications to be met with. These complications can best be considered if they are first divided into two groups: Group One—Complications due to an extension of the infection from the middle ear and mastoid to the adjacent structures; Group Two—Complications due to middle ear and mastoid disease in remote parts of the body or systemic disturbances.

To further limit this consideration, only Group One complications will be separately considered. The more common Group Two complications will only be listed for reference so that we may bear in mind the close relationship that may exist between the two.

*Read before the Section on Eye, Ear, Nose and Throat at the Sixty-Eighth Annual Session of the Mississippi State Medical Association, Biloxi, May 15, 1935.

I will refrain from taking up many details, to be found in any text and shall try to give you certain points, I regard as important, based on my own experience with these cases. In this way I hope to stimulate your interest in this extremely vital phase of our speciality.

Group One: Complications due to an extension of infection from the middle ear and mastoid to the adjacent structures.

- (1) Facial paralysis
- (2) Perisinus abscess and lateral sinus thrombosis
- (3) Labryinthitis
- (4) Meningitis, local and general
- (5) Brain abscess
- (6) Gradenigo syndrome
- (7) Petrositis
- (8) Recurrent cervical abscesses, Bezold type
- (9) Erysipelas

Extra-dural abscess is not taken up as it is so closely associated with localized meningitis, thrombosis and abscesses, covering these subjects appears sufficient.

Group Two: Remote complications of middle ear and mastoid disease:

- (1) Cervical adenitis
- (2) Acute arthritis
- (3) Acute nephritis
- (4) Pyelitis
- (5) Septicemia
- (6) Pyemia



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This is where our state medical society will meet next spring. Greenville is the Capital of the Delta over on the Father of Waters. It is a humming city. It is a medical center, the home of the Gamble Brothers, the Mayos of Mississippi; The King's Daughters Hospital, one of the best equipped in the state. This hotel has one hundred fireproof outside rooms, circulating ice water and ceiling fans—may be should not have mentioned these now. It has free parking space. It will be good to be there and you may be sure that this one hundred room hotel will be overflowed.

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- (7) Multiple abscesses.
- (8) Secondary anaemia.
- (9) Gastro-intestinal disturbances
- (10) Focal infection.

FACIAL PARALYSIS

This is not a common complication in the average case of acute mastoiditis. I believe it is more frequently associated with acute exacerbations of chronic middle ear and mastoid disease. When facial paralysis occurs in a patient suffering with acute or chronic suppurative otitis media, mastoid operation should be done without delay. When it occurs in the acute cases, prompt operation may result in prompt recovery of the paralysis. When it occurs in the chronic cases, recovery following operation is not likely to be so prompt and in some cases recovery does not take place. This of course relates to facial paralysis due to nerve involvement in the region of the mastoid. Facial paralysis of central origin is not to be considered but it is always important that we should try to localize the area in which the nerve is affected. In this way we may be able to ascertain if the mastoid is a factor. Other causes of facial paralysis should be ruled out.

LATERAL SINUS THROMBOSIS

This is a most important complication of mastoid disease and is nearly always associated with the acute cases. From the literature and from my own experience, I firmly believe that it occurs more frequently in the East than it does in the South. It certainly is not a common complication in Southwest Texas. Many cases can be prevented by early and complete mastoid surgery. It may occur early in the course of the disease or late, after operation, if surgery has not been adequate. Perisinus abscess is so closely associated with thrombosis in many instances that we can consider the two conditions together. The perisinus abscess causing disease of the vessel wall and thrombosis occurs as a result of this disease. Obliteration of the sinus may result in some instances from a long-standing perisinus infection, probably also associated with thrombosis of the sinus (I have operated on one case of this type) Thrombosis probably occurs more frequently than we are apt to believe. In all probability, some cases of thrombosis recover without sinus surgery in cases with adequate removal of the mastoid infection.

LABYRINTHITIS (UNDIFFERENTIATED)

This condition occurs in a small percentage of cases and apparently is most apt to occur in those cases suffering from chronic mastoid disease. If it occurs in acute cases immediate operation is suggested and if improvement is not apparent in a short time or if otherwise the indications justify, radical operation may

be required, with opening and drainage of the labyrinthine space in accordance with well established operative procedures in such cases.

MENINGITIS

May be localized or generalized. A common complication of middle ear and mastoid disease. In my experience in the South, roughly, ten times more common than thrombosis. Some may question this statement and say that lateral sinus thrombosis caused the meningitis in some of these cases. Perhaps it did, but I am sure that it was a very small number of these cases and that my estimate is essentially correct. Otic meningitis as it occurs in my experience can be divided into two distinct groups.

Group No. 1: The fulminating type of meningitis, which runs a rapid course and has its onset coincident with the acute middle ear infection, or with the early signs of mastoiditis. In this type of case the picture is complete and the case is often closed before the mastoid becomes surgically involved.

Group No. 2: Meningitis with a definite prodromal period. Manifested usually with signs of localized meningitis. Kopetzky says there is no such thing as fulminating meningitis, that all cases run a definite course with a prodromal period of varying duration. Theoretic-

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ally this is undoubtedly true, but the shortness of the course often times fails to give us a definite indication of what is happening.

The treatment of the first group of cases has been and is yet of a very doubtful nature. However, the pendulum seems to be swinging back to the field of otology. Treatment of the second group of cases is more hopeful. A few years ago the brain surgeon attempted by radical surgical measures to treat meningitis with very slight success. Such operations as drainage of the cisterna magna were performed in numerous instances, special operations being devised for this purpose, and also drainage by operative interference in other portions of the skull, all proved highly unsatisfactory, and only a very small number of patients lived on whom these procedures were carried out. Later, a great deal of work was done in an attempt to kill the meningeal infection by injecting antiseptics of various kinds into the circulation, such as the internal carotid injections. Only recently a great deal of work of this kind has been done by numerous experimenters, notably Kolmer. However, it would seem that the tendency to control these infections is being again transferred to the otologists, who by surgical procedures are attempting to remove the diseased bone from which the meningitis arises, then, to treat the patient in accordance with sound surgical principles. In this way we may be able to prevent a case of localized menin-

gitis from becoming a generalized infection. By these later procedures, it appears that more lives are being saved than was formerly the case, and by further improvement in our knowledge of the subject I feel that we will, to a certain extent, be able more successfully to manage this condition.

The diagnosis of frank generalized meningitis is so apparent that no discussion is needed regarding it. The diagnosis of localized meningitis or early meningitis (all cases at some time being localized in a small area) is not so easy. The picture varies considerably, due to the different locations which may be involved, at the onset, and we should at all times be on our guard for the least sign or symptom pointing to an involvement of the meninges. If we can diagnose these early localized cases and will proceed with our surgical measures, we may be able to prevent the general spread of the meningeal infection, and if so, our patients will recover in a fairly large percentage of cases. The symptoms which we should keep in mind are headache, restlessness, nausea and vomiting, eye-muscle disturbance, rigidity of the neck, paralysis, partial or complete, of any of the muscle groups of the body. Any one or more of these symptoms may be a warning to us. Fever is an uncertain sign and the blood picture does not help us as the co-existing infections produce an elevation of the temperature and increase of the blood count of a sim-

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ilar type and degree. The blood pressure, however, is usually increased in relationship to the increase in intracranial pressure. Pupil changes may be noted and also fundus changes may occur, which when present along with other symptoms, are of distinct value. Later, the meningitis becomes more marked. The neck becomes more rigid; Koernig sign is present. The meningitis may be generalized. Many ear cases die of meningitis and in these cases this is the terminal lesion.

The pathological picture varies depending on when, during the course of the disease death takes place. In meningitis more fluid forms than can get out. Normally, the fluid is absorbed by the pacchionian bodies where it seeps into the venous system by dissemination along the nerve sheaths and by absorption into the blood stream and tissues. Inflammatory reaction in these structures interferes with absorption. There is also an increased amount of secretion of fluid by the choroid plexus. The excessive secretion, caused by stimulation, is Nature's attempt to wash away the toxins and cellular debris. With this increase in the fluid, the blood vessels are compressed, nutrition of the brain disturbed; edema of the brain results. The chemistry of the spinal fluid changes; an increase in lactic acid takes place which disturbs the tissue colloids. Acid formation causes swelling of colloid of the brain. (This can be determined by ascertaining the pH content of the fluid.) To counteract this increase in intra-cranial pressure, and the disturbance of brain nutrition resulting therefrom the blood pressure rises. The disturbance of the brain tissue produces death of some of the tissues. The brain cells contain lecithin, degeneration of which produces a chemical known as cholin. The chemical substance produces convulsions and has an action similar to a similar chemical found in poisonous mushrooms. So the patient may die from pressure or from toxemia. The bacteria do not kill the patient. Early in most cases the pressure is of most importance. Later, the toxemia may be of equal or more importance. The most frequent type of infection found in these cases is some form of streptococcus, which is essentially a fermenting organisms as long as it can find sugar on which to grow. When the sugar in the spinal fluid disappears, it becomes a purifying organism, attacking the brain tissue. Other common organisms act in much the same way.

Meningitis may come about by infection passing through the oval or round window, the labyrinth, the epitympanic space, and the mastoid process, but probably the most important factor is direct infection through the skeletal veins of the temporal bone. These veins are continuous with the veins of the dura and there may be a regression thrombosis of these

vessels. The pia and arachnoid vessels form from another source. If we wish to find the true situation, it is necessary to take out the dura and temporal bone intact.

Spinal puncture will aid in the diagnosis by giving us an idea of the intracranial pressure and the character of the fluid. The cell count is an important factor along with the type of cells and the presence or absence of organisms on a smear or culture. The chemical examination of the fluid is of equal importance. Normally, sugar is present in the spinal fluid in a fairly fixed amount, and when the amount of sugar is materially lessened or absent, it is an indication that bacterial invasion has taken place in more or less degree, and as the loss of sugar becomes more marked, the infection becomes more marked, and it is only a question of time before the meningeal cavity will be generally infected by organisms. Therefore, I believe it is safe for us to assume that meningitis is present when the sugar content is materially decreased, even though no bacteria can be found in the spinal fluid. These will probably show up at a subsequent examination. When the sugar reappears and begins to rise in quantity, it is an indication that the patient is recovering.

I believe it is up to us as ootologists to assume the responsibility in handling these cases; and not to hesitate with our surgical procedures if the grave warnings of meningitis are present.

Treatment: Constant care, removal of diseased temporal bone, decompression, by wide exposure of the dura may or may not incise the dura. (Cases of secondary meningitis following surgical procedures or trauma are dif-

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ferent and should be handled differently). Otic cases may require forced drainage. Cases that flow freely may get well. In some cases repeated spinal punctures are sufficient. Cases that do not flow, die. A needle can be placed in the spinal canal and left there for continuous drainage. Hypertonic salt and glucose solution may be needed. Fragility test of cells may be necessary to determine the amount of hypertonic solution patient can take. It is not necessary to use these solutions as long as the cerebro-spinal fluid will flow. Transfusions of blood are helpful.

BRAIN ABSCESS

Brain abscess occurs in a small percentage of cases with otic infection, and in most instances the abscess is located in the temporal lobe. These brain abscesses may be either superficial or deep, but usually are superficial, secondary to localized meningitis and localized encephalitis. They may be due to contact infection or infection by way of the blood stream. Treatment of these abscesses varies somewhat, depending upon whether the abscess is superficial or deep. Drainage is an essential factor in the treatment of these abscesses and they should be well localized before drainage is attempted. It would appear that the tendency now is to more conservative methods than formerly in regard to drainage of these abscesses. In this connection, I would

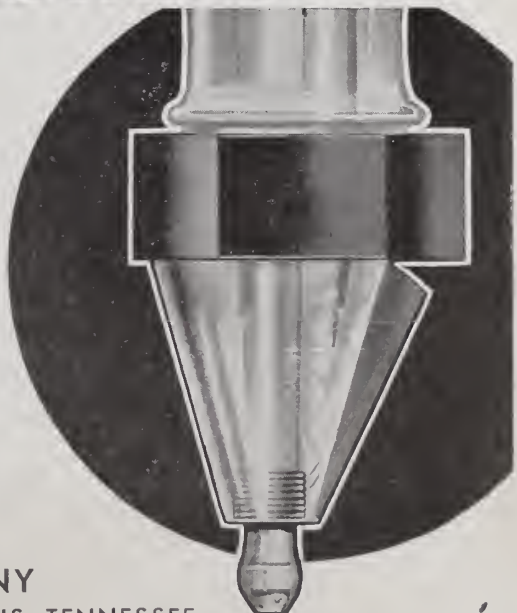
like to invite your attention to the subject as presented in Dean Lewis' "System of Surgery." Volume No. 12.

THE GRADENIGO SYNDROME

In 1904 Gradenigo described a symptom complex which has since been designated the Gradenigo syndrome. He believed this to be produced by a circumscribed or purulent or serous lepto-meningitis, localized about the tip of the petrous pyramid, and caused by the diffusion of the infection in the tympanium. It was his opinion that the spread of the infection was by pre-existing anatomical pathways and not commonly by osseous necrosis or blood stream distribution. It remained for him, however, to correlate acute suppurative otitis media, intense headache located in the temporal and parietal regions, and paralysis of the abducens of the same side as constant symptoms of a definite pathological entity. We now know that these manifestations mean irritation of the Gasserian ganglion and involvement of the sixth cranial nerve where it goes over the petrous tip. However acute otitis media and mastoiditis are usually associated with the condition. Six cases have been reported in which it was associated with retropharyngeal abscess. Dandy reports a case associated with sphenoidal sinus infection. The prognosis of this condition is usually favorable; but there is no doubt but that it is a sign of what may

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be a grave intra-cranial complication. Differentiation of this condition from the next subject, petrositis, is very difficult and very important. A large majority of the cases of Gradenigo syndrome will recover if let alone after mastoidectomy.

DISEASE OF THE PETROSAL PYRAMID, PETROSITIS

The temporal bone is made up roughly of three portions: The petrosal pyramid, the epitympanic space and the mastoid process. The mastoid process and the petrosal pyramid may be either diploic or sclerotic. Empyema of the petrosal pyramid is only possible in pneumatized tips. Osteomyelitis may only occur in medullary bone. Associated disease of the labyrinth, perilabyrinthitis and deep lesions may occur, depending upon the type of bone in the tip. Necessary essentials for a cure are a dry ear and a cured mastoid. When the petrous portion is necrotic, discharge may continue to come from the cellular elements.

The Gradenigo syndrome may be present in these cases. However, sixth nerve paralysis alone is neither an indication of Gradenigo syndrome or petrositis. Patients with petrositis may or may not have sixth nerve paralysis. According to Kopetzky, probably the most characteristic symptom, however, is retro-orbital pain, which usually is worse at night. Dizziness, low temperature, vomiting, nystagmus and facial paralysis are symptoms which may also occur. During the course of the infection these symptoms may all disappear rather quickly. This may be a danger sign. The diagnosis is made by the associated signs and clinical manifestations, and by X-ray study of the petrous pyramid. Another manifestation which may enter in the diagnosis is the reappearance of a discharge of the ear several weeks after operation, without other adequate explanation. In these cases, a fistula or empyema is usually present. Drainage of the petrosal pyramid is necessary for recovery, whether or not this is done in accordance with the methods described by Kopetzky, or the methods described by Eagleton or Myerson. Personally, I have had no experience with these procedures, and therefore I am unable to make a statement regarding the relative efficiency of the method. According to Kopetzky, infection may reach the petrosal pyramid in one of the following ways:

- (1) Through the retro-facial cell group
- (2) Through the epitympanic space adjacent to the semicircular canals.
- (3) Through the tubo-tympanic cells near the eustachian tube.

I trust we may not become too enthusiastic regarding our ability to diagnose this condition as there are many difficulties. This is probably a very rare complication.

RECURRENT CERVICAL ABSCESSSES

Recurrent cervical abscesses may occur following mastoid infection where the mastoid has not been operated upon resulting in a chronic mastoiditis with perforation near the tip, Bedold type, and may be somewhat confusing to the examiner unless seen on several occasions. When these abscesses occur in chronic cases the rapidity of the swelling and rapidity of disappearance of the swelling after drainage would tend to rule out cervical adenitis. Of course surgical treatment of the mastoiditis will cure the condition very promptly.

ERYSIPELAS

Strictly speaking, this is not a complication of mastoiditis. It is an intercurrent infection which complicates many cases, following mastoid surgery. It may occur in children or adults; may be unilateral or bilateral. It may occur regardless of the type of infection present in the mastoid at the time of the operation. The picture presented is not always typical of erysipelas as we see it elsewhere; particularly is this true when it occurs in small children and infants. The temperature curve when this complication is present is important as a differential feature. While the temperature is high, it is not a septic type of temperature, except during the latter stages of the infec-

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tion, when it may become not unlike the temperature of lateral sinus thrombosis. Prompt recognition of the condition and prompt treatment will usually give rapid and satisfactory results. Erysipelas serum is extremely valuable in the treatment. In addition to this I like to give large doses of calcium gluconate. Diagnosis is more difficult in children than adults, there is often an edematous character to the swelling with slightly redened margins. According to the literature on the subject, it is more dangerous in children than in adults. I again wish to impress on you the importance of early diagnosis and prompt treatment of this condition.

Following erysipelas, the healing of the mastoid wound is very much slowed up, convalescence being much prolonged, sometimes requiring as long as three months for the mastoid to heal when ordinarily it would heal completely in a month or less.

MENINGITIS ACUTE

Case Report

Name, B. T., age 6, male, white.

The history prior to the time I saw the case was as follows: This patient had had a double simple mastoidectomy three weeks previously. Got along fairly well following the operations for the first seventeen days although there was

slight temperature during all this time, and there was some stiffness of the neck. About the seventeenth day following the operations, the temperature began to get a little higher each day. The stiffness in the neck became a little more marked, and the child became fairly restless. The mastoid wounds had not healed as they should in this length of time, and this was especially true on the right side.

Examination: The child was somewhat restless, temperature and blood count were increased, the ears were practically dry, there was a rather profuse discharge from the right mastoid wound and a small amount of discharge from the left wound. A probe was introduced into the mastoid wounds. On the left side the tissues felt smooth and on the right side rough bone could be felt in the region of the mastoid antrum. The eyes and eye muscles were negative. The neck was stiff and the Koernig sign was positive. The spinal fluid at this time reported as follows: 972 cells per c. mm., globulin not increased. No copper reducing substances present, (sugar absent). Gram stain negative for bacteria. Cultures of spinal fluid and blood negative.

At this examination it was evident that the child had meningitis, most likely secondary to the disease of one of the mastoid regions.

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There had been no chills and no temperature curve suggestive of lateral sinus thrombosis, and the blood picture did not indicate lateral sinus thrombosis infection, the total white count being 11,820 with 66% polys, and a negative blood culture. From the examination of the mastoid wounds, it was most likely that the infection was coming from the right mastoid region. Therefore, I suggested reoperation on the right side. The physician in charge of the case asked me to perform the operation. The mastoid was laid open and considerable pus and necrotic tissue was found in the region of the antrum, and the dura was exposed resting against this necrotic bone and infectious material. The surgeon who had performed the first operation stated that he had not uncovered the dura at that time. I cleaned up the mastoid wound and removed all the diseased bone above the antrum that I could locate, exposed the dura over a fairly wide area. The mastoid was packed with iodoform gauze and the wound was closed except for a small area for drainage. The subsequent course of the case was steady improvement. The meningeal signs cleared, the temperature came down and the healing, while slow, was progressive. The temperature reached normal on the fifth day following this operation and remained normal, with one slight rise on the tenth day. The child made an uneventful recovery and has since been well.

MENINGITIS ACUTE

Case Report

Name, W. M., age 21, male, white.

Chief complaint on admission, pain behind right ear. History of Present Illness: States has been having trouble with his right ear for the past three weeks. Ear has been discharging ever since the trouble began and patient states that he has had fever nearly every day. Otherwise, there is no complaint. Past History: General health has always been good except has had the usual diseases in childhood.

At time of admission to hospital, there was a very profuse purulent discharge from the right ear, with marked tenderness over the right mastoid, also some edema of the right mastoid region; evidently a case of acute mastoiditis. There was no stiffness of the neck, no facial paralysis. Urine examination showed trace of albumen, otherwise negative. Blood count, RBC 4, 250,000 cells, 85% hb., WBC 12,500, 9 stabs, 77 sege., 14 lym. Wasserman negative. X-ray showed generalized involvement of the right mastoid with some bone destruction in the region of the antrum. Simple mastoidectomy performed on the day of admission. Marked destruction of the mastoid process reported by the operator. Marked destruction of the mastoid process reported by the operator. Five days after operation, patient complained of some headache, and there

was paralysis of the right external rectus muscle. The temperature at this time was ranging between 99 and 100. On the sixth day, the headache was more marked and the temperature was steadily rising. There was some stiffness of the neck. Spinal fluid examination made. Cell count 5,950 per cmm., 85% polys, 15% lymphs, a trace of globulin, pellicle formed. Smear, many pus cells. No bacteria. Culture made later reported no growth. Blood culture negative taken two days before. Examination of the mastoid wound showed profuse discharge in the mastoid area and also from the ear. Thick creamy pus. I deemed it necessary to reopen the mastoid, which was done and a considerable amount of diseased bone was found above the mastoid antrum, extending from the sygoma back to the posterior angle. This diseased bone was cleaned out and the dura exposed over a wide area. The dura was inflamed, but there was no subdural abscess and no granulations. Blood culture again taken, which was reported negative three days later. Temperature went down following operation. The blood count at this time was 12,750; 82% polys., 12% lymphocytes, 4% monocytes. The headache which had been severe before the operation improved. The temperature ran an irregular course, ranging between 100 and 103 for six days. Spinal puncture made on the sixth day following the second operation. 22,000 cells per cmm., 74% polys., 22% lymphocytes, trace of globulin; no sugar. Smear showed many pus cells, few staphylococci. Temperature and general condition of the patient continued to improve in spite of the increase in the cell count. Temperature reached normal, and remained practically normal on the ninth day following the second operation. Spinal punctures were ordered only for the purpose of relieving symptoms of increased intracranial pressure, which occurred only on two occasions during the illness.

Bacteriological study of the mastoid in this case showed a staphylococcus infection. Seventeen days following the second operation, spinal puncture was done to determine the course of the condition, with a report as follows: Globulin increased, sugar reduction normal, cell count 45. The ear was dry, the mastoid wound had nearly closed, patient was feeling fine except somewhat nervous, and he was permitted to go home. During this illness, he lost about thirty-six pounds in weight. Now weighing 136 pounds.

PERISINUS ABSCESS WITH OBLITERATION OF LATERAL SINUS

Case Report

Name, C. D., age 40, male, white.

Admitted to Beaumont Hospital August 20, 1928. Reason for admission, run-down condition with loss of weight and frequent febrile

attacks. Previous records showed that patient had inactive pul. Tb, both upper lobes.

I was asked to see the case about September 10th, at which time he appeared to be in a very serious condition. He was having one or two chills per day. The ENT examination was negative except for a chronic profuse foul discharging ear, right, with large perforations of the ear drum. He claimed that the ear had been in this condition for the past ten years. There was no pain no tenderness about the mastoid.

The WBC was ranging from 30,000 to 39,000 with 80% to 90% polys. The blood culture was negative. X-ray showed an increased density with loss of cell outline of the mastoid suggesting sclerosis. A mastoid operation was suggested with a probable diagnosis of perisinus abscess and lateral sinus thrombosis.

On account of the serious condition of the patient the chief of the medical service did not deem operation advisable and frankly predicted an early and fatal outcome.

The patient was not seen again for several weeks, during which time he continued to have a septic temperature and an occasional chill. His weight went down to 89 pounds. At times, the fever would subside for a few days. All other possible foci were ruled out, such as

kidney, bladder, prostate, G. I. tract, and pulmonary. The medical service admitted that they could find nothing to account for the septic condition.

I again saw the patient about November 22nd, and again suggested mastoid operation. After considerable delay the patient consented to operation and on December 4th, mastoidectomy was done under local anaesthesia.

The mastoid cortex was thick, but there was an unusual amount of bleeding from the bone which was not as hard as the ordinary sclerosed mastoid. There were no mastoid cells until the region of the antrum was reached. Here a large soft mass was uncovered as large as my index finger, with its long axis the same as the lateral sinus. This mass appeared to be inflammatory tissue and extended so far forward that it filled the mastoid antrum, up to the attic. In the region of the attic a very foul odor was noticed. The mass seemed to be a part of, or continuous with, the lateral sinus. A probe was passed down outside the mass to the curve at the jugular bulb.

An incision was made into the mass without producing free bleeding. A probe was now passed up and down through the mass for about one and one-half inches in each direction without causing any free bleeding. No clot-

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ting was noticed.

At the time I believed that I was dealing with an inflammatory mass that had taken the place of the lateral sinus, which had been obliterated for an unknown length of time. Ligation in the neck was not deemed necessary.

Three narrow iodoform gauze drains were inserted, one at either end of the mass and one in the mastoid antrum. The wound was closed around the drains. The drains were removed on the fifth day and the wound healed up in eighteen days. The patient had no further rise of temperature. The leucocyte count came down to normal and he began to gain in weight. Two months after the operation he had gained 48 pounds. Subsequent to the operation, there were at times a slight amount of clear mucoid discharge in the ear, but this was without odor. At one time during this illness, prior to the operation, the WBC went up to 56,000.

Diagnosis: Chronic suppurative mastoiditis.

Chronic suppurative otitis media.

Perisinus abscess, chronic, with obliteration of the sinus and replacement with scar tissue, probable thrombosis above and below the area.

LOCALIZED ENCEPHALITIS AND MENINGITIS

Case Report

Name, J. C., age 2, white, female.

Family History: Negative.

Personal History: Negative. Pyelitis six months ago. Never had any trouble with ears before.

History of General Illness: Child taken sick about two weeks ago with sever cold. Kept on getting worse until four days ago when child became very ill, irritable, with rapid respiration.

Admitted to hospital acutely ill, slight cyanosis.

General Physical Examination: Cyanosis, moderate pallor, head negative, chest, definite signs of pneumonitic involvement throughout left lung. Heart very rapid. No murmurs. Abdomen and extremities negative.

Three days after admission, left drum was found to be bulging and inflamed. Paracentesis done, a small amount of discharge obtained. Seven days after admission the right arm showed some evidence of paralysis, and on the following day the right leg also was partly paralyzed. The child was very restless except when under the influence of large doses of sedatives. There was a small amount of discharge in the left ear, the mastoid showed general cloudiness of left mastoid. Diagnosis of mastoiditis, acute, left with intracranial complications, localized meningitis with encephalitis within the region of the superior temporal

convolution with swelling and pressure on the motor area above. The possibility of an extradural abscess or brain abscess was also considered. Mastoidectomy, simple, was performed under local anaesthesia, with wide exposure of the dura, this revealed definite disease of the mastoid with inflamed dura. No extradural abscess about the operated area. The dura was not incised. The wound was packed with iodoform gauze. About this same time it became evident that there was empyema on the left side of the chest which was aspirated and considerable pus removed. Immediately following the operation of the mastoid, the temperature went up from 100 to 105, but began to drop in a short time. The restlessness continued very marked; evidently the child suffered from a great deal of headache. The paralysis did not increase and the general condition continued uncertain with slight possible improvement. On the twelfth day after the mastoid operation, a rib-resection drainage was done to relieve the empyema. Associated with the paralysis of the arm and leg, which was of the spastic type, there was general twitching of the head and mystagmoid movements, some muscle rigidity. Spinal fluid cell count normal but pressure increased on several occasions after the operation. Restlessness became marked and there was marked opiothotonos. Spinal puncture again done on fourteenth day after the operation, the pressure did not seem to be increased but the restlessness was relieved. After this the child continued to improve and was discharged in good condition two months and six days after admission. Urine examination remained practically negative. Small amount of albumen and few pus cells found on one occasion. The blood count varied from 18,000 to 26,000 W. B. C., with stabs rating from 7% to 26%. Hemoglobin 70. Red Cells 3,700,000.

DISCUSSION

Br. B. S. Guyton (Oxford)

I have enjoyed the paper presented by Dr. Parrish and I'm sure we are all grateful to him for many helpful suggestions.

I have had several cases of facial paralysis associated with acute mastoiditis. Every case cleared up after a simple mastoidectomy. I am thankful to say I have had only one case of facial paralysis following a mastoid operation. This one case was an old negro man whose mastoid had been quite bad for several weeks before he came to me. Strange to say this paralysis occurred after a simple mastoid operation and has been a puzzle and a worry to me until recently when I heard a famous anatomist say that occasionally the facial nerve has its exit from the mastoid bone through the mastoid cell region near the cortex, even in adults, and he called attention to a picture

of such a condition in Dr. John F. Barnhill's book on ear, nose and throat. Dr. Barnhill says that a representative of an insurance company told him that this cut in his book has saved them from paying liability damages in some cases of paralysis following mastoid operations.

The question of petrositis has come to have a prominent place in the literature. No doubt many of you have read the article by Dr. Ruskin, of New York, on "The Venous Circulation of the Petrous Bone and its Clinical Significance," which was published in the *Annals of O. R. & L.* The question of what route the infection takes in getting into the petrous tip may assume an important role in the early treatment of such cases, and if you haven't read this paper, I would suggest that you do so.

Ruskin says: "Outstanding in the entire consideration of the subject is the fact that the involvement of the petrous bone is most frequently, if not almost as a rule, secondary to pathologic processes in the middle ear rather than the mastoid process."

I recently saw an autopsy on a child who had died from a brain abscess. The petrous tip was necrotic and the mastoid was not involved. The infection had extended, apparently, from the sphenoid.

I think I can see in recent months that I have had several cases of petrositis in years gone by that were not diagnosed as such. Fortunately, all go well.

Recently I had a persistent case that I wish to report at this time:

J. L. L., male, age 40, had a bulging drum, which had been quite painful for two days. Paracentesis was done, and the patient had no more pain for ten days. At this time, he developed a very acute mastoiditis which was operated upon. Two weeks later he was having vertigo badly, and the discharge was quite profuse. This vertigo was severe for three days. I then curetted the granulations in the mastoid antrum and his vertigo cleared up for twenty-four days—but the free discharge continued. The vertigo came back. I then had the X-rays made which I am showing with two lantern slides. You will notice necrosis of the petrous bone is rather marked. I kept the mastoid well open for drainage, injected radiolum once daily, and gave him tincture of iodine 10 m. t.i.d. He made a gradual and complete recovery.

I have here a specimen I prepared hurriedly in the anatomy laboratory which by chance shows relationships that are easily forgotten unless frequently reviewed. I wish you would notice how intimate the 6th nerve is with the

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petrous tip and also recall that it passes through a rigid osteo-fibrous canal (Dorello canal) along with the inferior sinus before entering and traversing the cavernous sinus in close contact with the internal carotid. When any condition causes swelling of this nerve sheath, or enlargement of the sinus, pressure causes the temporary paralysis of the external rectus—which is a part of the Gradenigo syndrome mentioned by Dr. Parrish, the other prominent symptom being the retro-orbital pain.

Ruskin suggests another syndrome analogous to Gradenigo's but involving the circulation of the anterior portion of the pyramid, whereas the Gradenigo's involves the posterior—the symptoms being "temperomaxillary orbital pain, trismus and edema of the lower lid." He states that Gradenigo's syndrome "should be considered as symptoms of venous engorgement of the group of tympanic veins emptying into the inferior petrosal sinus." He says further: "Clinically I have shown that the early incision of the drum membrane and the

induction of free bleeding from the middle ear afford relief from the symptoms and may obviate suppuration of the petrous pyramid."

To my way of thinking a mastoid operation performed early with a good drum opening, is the best insurance in questionable cases of mastoiditis. The operation is so simple, the results go good, and the danger so little when done early, one cannot afford to delay operating when in doubt. The most conservative surgeon loses many cases by complications through delaying surgical procedures.

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I thank the Lord for merry heart to mix
With multitudes of other happy hearts,
With steady souls to play their destined
parts.

I have no time to waste in idle tears
For evil deeds I did in other years.
I have no will to squander in regret
For milk I spilled—there's milk in plenty
yet.

I wish, of course, my record had been right.
I wish, of course, I'd fought a nobler fight;
But with the past a tarnished, blackened
sheet,
I turn my back upon it, and I greet

A future full of challenge, full of cheer.
I greet with gratitude another year.
I may not end the errors of my ways.
I may not mend the deeds of yesterdays.

The race I run may win no wreath for me.
The life I live, a barren stretch may be.
A year from now, though I be quick or
dead,
It may not matter what I did or said.

We go our way. Few heed as we pass.
Our little lives are less than garnered grass.
We pay our tribute to our empty dreams.
We sing and sigh, like sighing, singing
steams.

Some few may thrill to finer aims and hopes.
Some few may climb to sweet, sublimer slopes.
But most of us, such souls as you and I,
Can never rise to peaks that tower high.

But even you and I along the way
May make life break to blossom day by day,
Can set a song to singing in some heart,
Can play, at least, a kindly, humble part.

And maybe after all, the life we live
More solid inspiration yet may give
Than those who move majestically along,
Too proud to mingle with the motely throng.

I thank the Lord for Nineteen-Thirty-Six.
I thank the Lord for blessedness to mix
Among my common brothers in the crowd.
God keep me, honest, humble, but unbowed.

—DAVID E. GUYTON

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Diarrheal Diseases And Their Management*

C. E. BOYD, M. D.
Amory, Miss.

In presenting a paper on a subject that reaches back through the ages and has been one of the perplexing questions of all time, I realize that it is difficult to add much that would be helpful, but, only by trial and rejection, discussion and rediscussion have we made the progress that has been made. And since the growing and care of babies is the prime object of nature, then no subject can be of more importance, should receive more careful consideration, or more intense study. I shall make no attempt to add anything new. The points set forth in this discussion are familiar to all, and I believe that with all we have learned, and with the rapid strides made in the understanding and management of these conditions, that we are only in the beginning, and notwithstanding the cut in incidence and the very greatly lowered rate of mortality, that the next few decades will see a still more thorough understanding of the nature, and safer and better methods of handling than we have yet known. I think we are gradually learning that each case must be treated on its own merits, that hardly any two cases are alike and that routine measures have been used to the detriment of many little sufferers.

The paramount importance of these conditions lies in the fact that in a very great many instances, they are the very first symptoms of disorder in the infant or growing child. And, at the very first sign of a disordered bowel the child should be thoroughly examined and the cause ascertained if at all possible.

There are several very important factors to be remembered in the management of these conditions, their greatest frequency and severity, as well as their highest mortality occurring during the first two or three years of life, after which they occur less frequently, are apt to be milder in type, and with much less fatal results. The great susceptibility of infancy and childhood to these conditions is due to several reasons. The mucous membrane of the gastrointestinal tract is delicate and has not the resistance of later life, when exposed to irritants or injury. The digestive system of these small patients is at best, hard worked to supply the needs of the growing body during the first years of life. Another important factor is temperature. Most of the cases (except

*Read before the Section on Medicine at the Sixth-Eighth Annual Session of the Mississippi State Medical Association, Biloxi, May 14, 1935.

those following some other condition) occurring in the summer months, and when once established are apt to linger with periods of exacerbation, till cold weather. These conditions, while essentially belonging to the classes whose vitality has been lowered, and whose surroundings are poor, are not entirely limited to the lower classes, but do occur in all walks of life. Unhygienic surroundings, predispose to these conditions in summer just as they do to bronchial and other respiratory conditions in winter.

And last but not less important to be considered is the fact that anything that in any way, lowers the vitality of the growing child, predisposes to these conditions. I shall make no attempt to classify or discuss these conditions from the standpoint of the specialist, who gives all his time and study to diseases affecting childhood only, but from that of the general practitioner, who yet handles, and will handle for some time to come, a great majority of these cases.

Practically all cases occurring in the rural districts have to be managed by the general man. To my mind the classification of these conditions must necessarily be more or less general in nature, and the terms for some of them used relatively. In many instances, there

is an intermingling and overlapping of the different types of cases, and most of the types (especially the food groups) are inter-related and must necessarily be managed along the same general lines. Then with this view in mind, I think we can reasonably place these conditions in a few general classes, and each class possessing types and subdivisions which are common to all.

First, those due to food under which I would place (a) mechanical (b) eliminative (which may occur in other conditions as well) (c) starvation (d) allergy.

Second, the infections of which the amebic and bacillary are the principal types.

Third, those occurring coincidentally with or following some other condition, measles, influenza, otitis media, mastoiditis, sinusitis, etc.

Fourth, the types that cannot reasonably be placed with any of the first named groups, (a) drug diarrhoea (b) nervous diarrhoea (c) those of early infant life (which may come under the starvation type also) (d) those due to dentition, etc.

With the above to serve as a kind of general outline I will discuss briefly the different types and subdivisions as we usually find them occurring.

(a) Mechanical diarrhoeas are caused by

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substances taken into the stomach as food and acting as a foreign body. This might be too much food, too little food, or food that is damaged and causing excessive fermentation. This type may be mild causing only slight symptoms, as an increase in peristalsis, maybe slight fever, with a few watery stools, to those passing into the severe type with grave symptoms and actual inflammation of the intestinal mucosa.

(b) Eliminative diarrhoea can be considered a benign effort on the part of nature to eliminate from the system some offending material or toxic agent. The diarrhoeas occurring in some of the chronic terminal conditions such as nephritis are usually of the eliminative type.

(c) Starvation diarrhoeas are found in exhausting conditions where the vitality has been greatly lowered, and especially in new born babies. This type of diarrhoea in nursing babies is far more common than we might think. The mothers' milk may not be adequate or if the baby is bottle fed, the feeding may be poor in quality or improperly prepared and may occur where the management has been done according to our own instructions, but where the infant for some reason failed to adjust to the food. Every bottle fed baby should be carefully weighed each week to see if proper gain is being made.

(d) Allergy bears some relation to these conditions and should not be overlooked, some patients being sensitive to certain foods, which when taken cause abdominal discomfort and diarrhoea, just as some patients develop asthma and urticaria from certain foods. The symptoms may come as soon after the ingestion of the offending food or may be delayed for several hours and may present symptoms from slight discomfort to those with severe prostration and grave outlook. The infectious types of diarrhoea should be considered rather as a related group of conditions and managed more as different degrees of disorder in a poorly functioning intestinal tract, than as different types of conditions caused by different groups of organisms. The amoebic type, of course, being a separate entity, must receive management directed toward removal of the amoebae from the body.

No matter what the type of infection or how pronounced the symptoms we have a condition presenting a symptom complex, that must necessarily be managed along the same general lines. The cases range in degree from those mild in nature, presenting only slight discomfort, moderate fever, some distension and a few stools containing only a small amount of mucous and undigested food, with no change whatever in the intestinal mucosa, to those of the grave type, where the symptoms are pronounced, the prostration extreme, the stools frequent and full of mucous and blood, with

well marked inflammation of the mucous membrane leading to necrosis and sloughing. These infections present symptoms all out of proportion to the amount of actual damage done the intestinal canal. The severity of the symptoms is directly proportionate to the amount of toxic material absorbed by the bowel, and the rapid multiplication of bacteria in the contents of the intestinal tract, and the absorption of the toxins so produced, can convert a case, that would have been mild, into one of intense severity and hopeless outlook. This group of conditions adds much hazard to the first two or three years of life, and may be with proper management and good surroundings of mild type and short duration, or with poor surroundings and bad management, severe and long drawn out. Many of the diarrhoeas can be considered more as symptoms of other diseases than as diseases themselves, but I feel that this group should be considered as warranting special attention both as to prevention and treatment.

Diarrhoeas occurring coincidently with or following such conditions as measles, influenza, otitis media, sinusitis, and mastoiditis should receive careful consideration. The symptoms of diarrhoea may be so pronounced and the prostration of a nature so grave that the underlying cause of the condition can be entirely overlooked.

Every child presenting diarrhoeal symptoms, should be subjected to a careful and painstaking physical examination, that would rule out if possible any of the primary conditions which may be followed by diarrhoeal symptoms.

Diarrhoeas of this type usually need little if any treatment, further than that directed toward the underlying condition causing the diarrhoea.

The Fourth Group: (a) Drug diarrhoea. Many children develop a diarrhoea from too severe or too prolonged purgation. Drastic purgation in any intestinal condition can not be too severely criticised.

(b) Diarrhoeas of nervous origin. Some children have an oversensitive intestinal tract that is easily excited to excessive peristalsis and respond to many outside nervous influences causing diarrhoea, the taking of food, exposure to heat or cold, exhaustion, etc. Some children have a family background that predisposes to many of the nervous influences that may be followed by a diarrhoea. Dentition, though hard to establish a plausible reason, bears some relation to diarrhoeal conditions, many children developing a diarrhoea with the eruption of almost every tooth. I imagine most of us can recall cases of this type occurring in our own children that gave us much worry, if not grave concern.

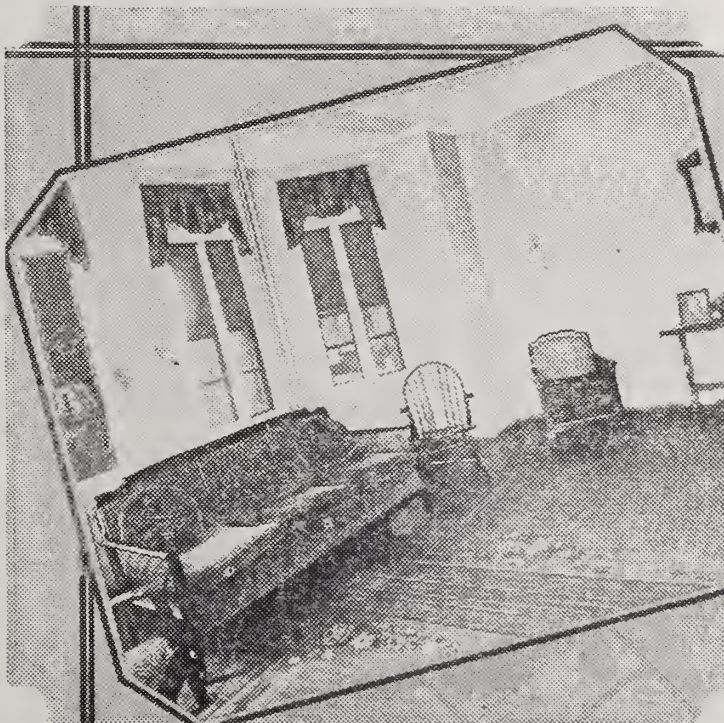
In the consideration of the management of diarrhoea, I feel that prevention should come

first, be kept in mind throughout and stressed last. Every child should be given as nearly a normal start in life as is possible. Every normal mother should be taught the absolute necessity of nursing her own baby, but where a baby for some good reason must necessarily be bottle fed, then the mother should receive clear, definite, and specific instructions in writing, as to the care and preparation of the food, amount and intervals of feeding and untoward symptoms to be looked for. Foods should be clean, hands that prepare them and utensils that contain them should be clean. Vitamin containing foods and orange juice should be early added to the diet. Pure milk and pure water should be assured and the child not over fed. The body surface should be protected from the extremes in temperature. Cod liver oil should be early added to the routine. Raising the resistance of the child by the measures outlined and making the surrounding as hygienic and pleasant as possible will go far toward giving the child a fair start in life.

After a diarrhoea has developed every case should be regarded as of potential severity, and early treatment stressed. After the lapse of from twenty-four to thirty-six hours, the case becomes more difficult of management and the child's chance of recovery very much

lessened. People should be taught the seriousness of these conditions if allowed to run on indefinitely. Whatever the type may be, a definite plan of management should be inaugurated and followed up. This general plan will apply to most cases, and special symptoms must be considered and dealt with as they arise. The patients and their well being, must be considered first, and the diarrhoeal symptoms treated as matters of some what secondary importance.

The patient should be put to bed and separated from other members of the family, except those who are to act as nurses. All food should be withheld for at least twenty-four hours, and for a very much longer period if necessary and symptoms are urgent. No damage whatever will be done in the acute stages by abstinence from food, and much benefit may be expected. Excessive temperature should be controlled by sponging the body surface with tepid water, and a cold cloth or ice cap to the head. Frequent sponging of the body surface will do much to allay untoward nervous symptoms and add much comfort to the little sufferer. Bits of crushed ice will do much in preventing thirst and greatly aids in controlling nausea and vomiting. If vomiting is persistent washing the stomach may help. After the initial period of starvation, it is my



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practice to give only cereal waters or gruels, preferably, the water from well cooked rice for a few days, or till the symptoms seem improved. This will give some nourishment and the starch contained in these cereal mixtures exerts a soothing influence on the inflamed mucous membranes. After the symptoms have ameliorated and we feel that these patients are possibly on the road to recovery the question of a more liberal diet must be considered, and at the same time approached with caution, lest we undo all that we have done. A more liberal diet must be worked out for each individual case, taking the patient's history and reaction to different foods into strict consideration.

Drugs, though very necessary under certain circumstances, I think bear the least important part in our efforts to control these conditions. In the initial stage where the bowel is loaded with undigestible food, calomel in small broken doses given with, or followed by castor oil, probably does some good. Where the actions are frequent, and the bowels already exerting every effort at elimination, I see no cause to further aggravate the matter by meddlesome purgation, insult to injury only being accomplished. In regard to drugs intended to act as intestinal antiseptics I think we are humoring our imagination when we expect much to be accomplished in this way.

Probably salol with large doses of some form of bismuth will accomplish as much as anything on that line. Opium in some form, paregoric, or Dover's powders I think of value in controlling excessive peristalsis and nervous symptoms.

Where vomiting is persistent, the nervous symptoms pronounced, and the condition grave, I feel that morphine and atropine given by hypodermic does more good than anything else that may be given. Regulate the dose to the size and age of the patient and give it regardless of size and age. After a general plan on this nature has been carried out, we have some resultant conditions that must be carefully considered. Dehydration must be considered first after which come (a) acidosis; (b) alkalosis; (c) starvation. Dehydration is the most important accompanying condition that we must deal with in the management of any diarrhoea. Fluid is lost, by vomiting, by excessive bowel action, from the lungs and from the body surface. The subcutaneous tissues are shriveled and drained of fluid, the skin is parched and dry, the internal organs are functioning under serious handicap for want of fluid, every portion of the body is crying out for fluid, and this fluid must be supplied in some manner that must be left to the judgment of the attendant. Nature's way by mouth where it can be retained is certainly the easiest and most pleasant way and quite as effective

as any other way. By the rectum by slow irrigation or drip, is not very effective but will add some fluid and can be used as an accessory measure. Fluid may be given by hypodermoclysis where the need is urgent, and by salines intraperitoneally and glucose intravenously where the need is grave. Much can be said on the manner of supplying fluid, but the important fact to be considered in every case is to find some manner that can be tolerated by the patient and the fluid retained, and the results will be satisfying, most of the cases improving when plenty of fluid can be retained.

Acidosis: Woodyatt defines acidosis as a condition in which the concentration of the bicarbonate in the blood has been reduced below the normal level. I think we use the term too frequently in the presence of our patients, in the treatment of various conditions. They are apt to confuse the term and think we mean that the blood stream is acid, which, of course, we do not mean, but in these conditions we do have the presence of certain acids circulating in the blood in toxic amounts, and in nature's efforts to neutralize this excess of acids, the normal alkalinity of the blood is greatly depleted. What we actually do have is not an acidity (you see) but a depletion of the alkali reserve, the acid base balance has been disturbed, and adequate alkalosis is no longer being maintained. In these conditions there are several chief factors concerned in the lowering of the alkali level. Starvation and prolonged vomiting play some part; the frequency of the bowel actions causes an increase in the elimination of alkali. Then the kidneys may fail as a result of dehydration to eliminate the acids formed by the action of putrefactive bacteria in the intestinal tract.

Proper kidney function bears a close relation to the favorable progress of these conditions and understanding physicians have long been aware of the fact that so long as the kidneys continue to function in an orderly manner, that despite the severity of the case, the outlook is more hopeful. The chief symptoms of acidosis are flushed face, rapid and labored breathing, and scanty elimination from the kidneys.

The treatment lies in restoring to normal the alkali reserve. Glucose may be given intravenously, carbohydrates by mouth, sodium bicarbonate in any way that the patient can retain it.

The prognosis of a severe acidosis is necessarily grave in view of the fact that we are always dealing with some underlying condition of much severity when such a condition of alkali imbalance results. Alkalosis is diametrically opposite to acidosis and is evidenced by palor, slow, shallow breathing and stupor. Alkalosis may occur where there is prolonged

vomiting, but is many times the result of too vigorous or too prolonged measures used in combating acidosis.

Alkalosis will clear up as the mineral imbalance returns to normal. After the initial period of starvation where these cases seem likely to run for an indefinite period, some means of nourishment must be devised. These patients must be nourished because of and in spite of the diarrhoea. If left unnourished the symptoms will be more severe and more difficult to manage. The diet should be low in fat with enough protein to sustain the patient and an amount of carbohydrate that can be tolerated by the patient.

SUMMARY

1. Diseases or conditions occurring during the first two or three years of life.
2. Greatly influenced by temperature and surroundings.
3. Prevention comes first in management.
4. This is proved in the decline of diarrhoea diseases.
5. Anything that lowers the vitality of the child predisposes to these conditions.
6. Diarrhoea once established should have the determining cause ascertained if possible.
7. Every bottle fed baby should have careful supervision.
8. Drugs though necessary bear the least

important part in management.

9. Drastic purgation is distinctly harmful in these conditions.

DISCUSSION

DR. B. C. TUBB, (Smithville)

I enjoyed Dr. Boyd's paper very much. It is really good and covers the subject thoroughly. I, too, think preventive treatment of this disease more important than curative.

The management of the feeding is all important. By this means we prevent as well as cure the condition. Every normal mother should nurse her child. She should be thoroughly instructed to feed her baby at regular intervals and at the same hours each day. Every three hours is best. This is hard to get them to do. Some grandmother comes giving orders and advising that the baby is starving and should nurse as often as it wishes. These orders are carried out and we soon have a sick baby on our hands.

Dr. Boyd covered this subject nicely dividing it into four general classes and several subdivisions. As a general practitioner, I divide it into two general classes, (1) infectious, and (2) non-infectious.

The infectious type we rarely see. In it we have real pathology. The micro-organisms enter the mucous membrane of the intestinal tract causing inflammation, sometimes going

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into the muscle layers and causing ulceration and at times even sloughing.

In the non-infectious type we have no pathology. The trouble is in the intestinal contents. We know we have micro-organisms in the intestinal tract which are non-pathogenic and aid the enzymes in the digestion of food. They live on the intestinal contents which is food. The disintegration or digestion of fats and carbohydrates produces an acid medium upon which only acid producing bacteria can thrive. The disintegration of proteins produces an alkaline medium upon which only alkali producing micro-organisms will grow. As long as we have a balance between the fats and carbohydrates (acid producing) and the proteins (alkali producing) foods, there is a balance or neutral condition in the intestinal contents which is normal. But suppose the child eats too much sugar. After a while the acid producing bacteria increase. The contents of the intestine become too acid, causing irritation of the intestinal mucosa and, therefore, diarrhea. What is the remedy? We have fed pounds of bismuth to coat the intestinal tract, walling off the germs. And we have given intestinal antiseptics to kill germs. But we need very few drugs to treat this disease; if seen early, a dose of castor oil to remove the culture media from the intestine, a rest period of 12 to 24 hours without food, giving only water or weak tea sweetened with saccharin, one gram to the pint. This prevents dehydration and acidosis. A dose of milk of magnesia may be given three times a day to render the intestinal contents alkaline. Feed a weak protein food after the rest period, casein is a good one. I use milk $\frac{1}{4}$ and water $\frac{3}{4}$, casein one ounce, a little salt and one grain of saccharin. Feed one ounce of this mixture for every month of age up to eight; never more than eight ounces; feedings three hours apart and seven feedings a day. In 24 to 48 hours the child will pass a normal stool, alkaline in reaction. Now we must cut out $\frac{1}{4}$ ounce of casein and add $\frac{1}{4}$ ounce of dextrin-maltose or some other carbohydrate every other day until we have a balanced diet or a balance in the culture medium which is normal again.

We see that by food manipulation we can prevent as well as cure this condition.

Irrigate the colon with one-half of one percent tannic acid solution or strong tea once a day if the child is passing blood. Stimulate if very weak.

This acid type is what we usually find. Test the stools for acid or alkaline reaction. Manage feeding according to reaction found and we will save many lives.

Dr. Boyd brought us a good paper and I hope

it will be discussed by the pediatricians who will bring us new thoughts upon this important subject.

Health Head Fills Two Requests For Camera Portraits

The season of mailing packages spurred Dr. F. J. Underwood, state health director, to fulfill requests one and two years old today.

He mailed to the Rockefeller Foundation, New York City, and to the Public Health Division, Yale University, New Haven, Conn., photographer's portraits of himself, which they had requested some time ago.

The portraits will be hung in the public health offices of each institution.

Mississippi should have a two year internship at Jackson and the Sanatorium in our opinion. It could be made a real one.

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The Conservative Treatment of Peripheral Vascular Diseases By Means of Alternating Positive and Negative Pressure*

JAS. C. GREEN, M.D.
Tupelo, Miss.

The value of any one method of therapy may be well determined by reviewing the number of other methods of treatment of the same disease. So it is with diseases of the circulatory system of the extremities, and, particularly the arterial and arteriolar systems.

I have chosen for your consideration a method which really is much older than most of us would think. It was Sir James Murray (7) of Dublin, who in 1812 first used this method of therapy in disease. At that time he treated experimental animals as well as patients to various degrees of rarefied and compressed air. It was not until 1835 (7) however that he began to publish his experimental and practical studies.

Quoting from Murray (7) he says, "The effects of a rare atmosphere are pointed out by those who have ascended very elevated situations, but in such cases air inhaled was as light as that around the body. On the contrary, it is natural to expect different results if you place a man in a rarefied atmosphere, who at the same time is breathing air of unusual density and pressure. The abstraction of a ton and a half ton weight from the surface of the body permits the cutaneous vessels easily to fill and favors their distention, as it were, by suction, while at the same time the lungs receive a column of the usual expansive force supporting the interior trunk and organs, pressing and propelling blood out from the center to the circumference."

Victor Junod (7) in 1933 began to use this method of treating various and sundry diseases of the internal organs as cholera, pneumonia, chills, pleurisy, pericarditis, and peritonitis under which therapy he termed hemospasia. He devised large cups which would fit the thorax and abdomen and sought to relieve the congestion of the internal organs by drawing the blood to the surface. With our modern knowledge of bacteriology we all know such was only a hopeless procedure. Then in 1936 Dr. George W. Crile (4) advocated the use of the positive pressure principal by devising an

inflated suit as a means of auto transfusion for operations on patients in shock. As I once heard Dr. Crile say "Not all the credit belongs to the discoverer of a successful form of therapy but due consideration belongs to those who have popularized it by both experimental and practical studies." Such credit belong to two working separately but simultaneously, here in the United States in 1932 and 1933. Drs. Mont Reid and L. G. Hermann in Cincinnati, the former of whom stated in his Matas lecture in New Orleans in 1934, (5) after treating 69 cases of obliterative vascular disease on whom he had given 5500 treatments, that passive vascular exercise was the most single effective stimulant toward the development of collateral circulation. Drs. Landis and Gibbons, Jr. (5) from the University of Pennsylvania have also been instrumental in popularizing the use of alternating pressure and suction in treating the peripheral diseases of the arms and legs. Though both groups have been treating the same types of disease, their technique of administration varies considerably. Reid and Hermann (6) have received their best results by using a negative pressure of 80 mm. of mercury and an alternating positive pressure of 20-40 mm. of Hg. The length of time that the extremity is exposed may safely be as long as one hour for each extremity, and after a short period of rest the same procedure may be repeated except in those cases of severe arteriosclerosis in which they consider it of more permanent value to begin with small periods of exposure usually thirty minutes to the part and gradually increasing with each successive treatment. Landis and Gibbons (15) use a wider range of alternation by exposing the diseased part to 120 mm. of Hg. negative pressure for 25 seconds and 80 mm. Hg. positive pressure for five seconds.

The Cincinnati group advises against more than 100 mm. Hg. negative pressure as they have seen a few cutaneous hemorrhages from such exposure, while the Philadelphia group have observed no ill effects from an exposure of as much as 120 mm. Hg. negative pressure. Only time will tell which method of administration will prove the more efficacious and of permanent value. Both groups have used a sufficient number of controls and their efficacious results are about the same.

At the Gamble Bros. & Montgomery Clinic in Greenville we are using the method of Reid and Hermann, that is the Pavaex, Hermann coining the word Pavaex from the term passive-vascular-exercises. The patient is placed on a small cot and the diseased extremity is placed in a long boot of pyrex glass which fits about 6 or 8 inches above the knee or elbow, tightly to the thigh or arm by means of a rubber cuff. The extremity is elevated about 4 or 6 inches above the level of the heart

*Read before Northeast Mississippi Thirteen Counties Medical Society, fourth quarterly meeting, Tupelo, Miss., Tuesday, December 17, 1935.

by means of an inclined plane which I have advised so that we may elevate the diseased part at whatever height above the heart that we may see fit, usually dependent upon the condition of the venous return and the position of optimum function. A large rubber tube connects the boot to an electrically driven motor on which are dials for regulating the amount of positive and negative pressure desired and also the number of short oscillations per minute during both the positive and negative cycles. The motor is turned on and I have generally used one hour for each diseased extremity. I might say that I have found it very much more comfortable for those individuals who have rather small thighs to place a small soft rubber sponge underneath the heel to prevent any undue pressure or trophic disturbance in that area. However, recently we have acquired several sizes of cuffs so that all that is necessary is to change the cuff.

The classification of peripheral or arterial disease of the extremities is clinically divided into two main divisions, namely the spastic and organic. I mention the spastic conditions (Raynaud's disease and Weir Mitchell's disease) only to condemn them for this form of therapy except the spastic element that is not infrequently in thrombo-angitis-obliterans, which element has been markedly benefited by suction and pressure. It is not always possible to pigeon hole a case as entirely as organic or spastic in nature; that is, some cases have shown both elements present and in such cases one might well supplement an alternating positive and negative pressure even after sympathetic ganglionectomy or periarterial sympathectomy. Most neuro-surgeons at the present time prefer lumbar or cervical sympathetic ganglionectomy over Leriche's operation for Reynaud's disease.

The organic diseases of the extremities that have been shown to be amenable to passive vascular exercises are—thrombo-angitis obliterans, pre-senile and senile, arteriosclerosis, arterial embolism and thrombosis of the peripheral blood vessels, syphilitic endarteritis, diabetic gangrene and frozen feet.

The rationale of the Pavaex form of treatment depends entirely upon the development of an adequate collateral circulation. Just as the pioneer of all cardio-vascular surgery, Dr. Rudolph Matas, showed when he devised his Matas compressor for the development of an adequate circulation around an aneurysm before he performed his obliterative endoaneurysmorrhaphy. In fact, Matas (4) has recently used this form of therapy in conjunction with his compressor in handling a large arterio-venous hematoma of the femoral artery, later doing his obliterative endoaneurysmorrhaphy after an adequate collateral circulation had been developed by compression

and alternating positive and negative therapy.

Hermann and Reid (7) report a higher percentage of cures in their cases of arteriosclerosis and particularly when there was predominant involvement of the primary and secondary arterial pathways of the extremities. Their percentage of cures was also high in the acute and subacute thrombosis and embolisms that were treated. Hermann (8) makes the statement that in true Buerger's disease, because of the extensive obliteration of the arterial and arteriolar beds that the re-establishment of collateral circulation is extremely difficult and he believes the improvement being only temporary. On the contrary, Landis and Gibbons (14) in a series of 75 cases had their highest percentage (65%) of good results in thrombo-angitis obliterans.

In the American Journal of Syphilis (10) Hermann advocates the use of alternating positive and negative pressure for syphilitic endarteritis, only after an adequate amount of anti-syphilitic therapy, and after the infection has disappeared and the skin has become soft and the arterioles flexible so that they may be dilated.

Both groups have reported startling results in the way of curing ulcers, improving intermittent claudication, clearing up of rubor and gangrenous digits, increase in warmth to the part affected, and even return of pulsation in the dorsalis pedis and posterior tibial arteries which depends usually upon the collateral circulation through the medial and lateral geniculate arteries.

There are very definite contra-indications for this form therapy as in any other method of treatment. Hermann & Reid list as their contra-indications:

1. Thrombophlebitis, cellulitis or lymphangitis (Acute or subacute.)
2. Extensive destruction of the arterior and capillary vessels.

(A) Advanced thrombo-angitis obliterans with capillary stasis.

(B) Advanced arteriorlar sclerosis with capillary stasis.

Whereas Landis & Gibbons (14) include phlebitis, encapsulated pus, or acute spreading infection as contraindications for suction and pressure therapy.

To this list I would like to add another, and that is in those cases of vegetative valvular disease of the heart as subacute or acute, bacterial endocarditis it appears to me that the danger of dislodging one of the vegetatives into some vital spot such as the brain or lung or even one of the coronaries would be too dangerous to justify this form of therapy.

There have been no ill effects recorded in the literature other than a few cutaneous hemorrhages as previously stated.

As we readily see it is of extreme importance

that we make an accurate diagnosis in all of these conditions but particularly so in differentiating the organic from the purely spastic conditions, as the latter receive very little if any permanent value from passive vascular exercises. There are several diagnostic procedures available for helping us to differentiate between a genuine organic and spastic condition of the peripheral vessels. The most simple probably the use of alternating contrast baths.

Scott and Morton (19) suggest the use of spinal anesthesia and peripheral nerve block with novacaine and if there is an elevation of surface temperature to 30.50° or higher then vasoconstriction is the cause. Whereas if there is no elevation of surface temperature the peripheral lesion is organic in nature. If it rises, but not to the previously mentioned level, then we have the mixed type, that is vasoconstriction is an element, but not the sole cause of the circulatory deficiency. While Brown (4) of the Mayo Clinic has advocated the intravenous injection of foreign protein and determining what he calls the vaso-motor index as a means of differentiating organic from spastic conditions. Horton (11) at the Mayo Clinic advocated the injection of mercury as a means of determining the arteriographic condition of the vessels of extremity.

Probably the least harmful method of calculating the condition of the main arteries of the extremity as well as the collateral circulation is the injection of thorotrast followed by arteriography as advocated by Allen and Camp. (1)

The different organic lesions of the peripheral arteries may be differentiated by the exact history of the case, blood chemistry, Wassermann, nationality and the age of the patient with some knowledge of the cardiac involvement.

At the King's Daughters Hospital and Gamble Bros. and Montgomery Clinic we have treated two cases of thrombi-angitis obliterans, one case of endarteritis obliterans, two cases of thrombosis of arterial tibial artery, and two cases of arteriosclerosis with passive vascular exercises. All of these cases except one were markedly benefited by the use of suction and pressure. The arteriosclerotics were treated by a gradual increase of time of exposure, beginning with 30 minutes to the part at pressure of 80 mm. of Hg. negative pressure and 20 mm. Hg. positive pressure. The thromboses were started out on energetic therapy at once with one hour to the affected part each day for thirty days. Contrary to the belief of Reid & Hermann and in agreement with Landis & Gibbons our cases of thrombo angitis obliterans have shown the greatest improvement. One of these cases, a physician, previously had a

nerve block by Dr. Hugh Gamble with a rise of 9° in temperature, but not up to the level to classify it as entirely spastic. For that reason he has been classified as a case of thrombo angitis obliterans with an element of spasm present. Though he has no pulsation present in the left dorsalis pedis and posterior tibials, the right posterior tibial exerts a slight palpable pulse. Both feet are definitely warmer and the rubor has entirely disappeared after 118 hours of passive vascular exercise.

The other case of Beurger's disease will illustrate the value of the use of passive vascular exercises after ganglionectomy. The patient a Jewish male, 53 years of age, came to the clinic in December, 1932 complaining of pain in the calves of his legs, and arches of his feet. His teeth were bad and considerable pyorrhea was present. His heart revealed no irregularities. Blood pressure was 150 mm. Hg. systolic and 80 mm. Hg. diastolic with a pulse of 96 and temperature 97.6°F. The lungs and abdomen revealed nothing of pathologic significance. He had two external hemorrhoids. There was no enlargement of the prostate. Both feet revealed a marked acrocyanosis with a blister on the second toe of the right foot. Dorsalis pedis and posterior tibial arteries were not palpable. The laboratory report showed Hb. 80, erythrocytes 4,600,000, leukocytes 12,800, differential—S. M. 25, L. M. 12, neutrophils 4. An examination of stool revealed no intestinal parasites, nor was there any allergic manifestations in the history or physical examination. The urine revealed a faint trace of albumin, but on sugar, and the blood sugar was within normal limits. Blood Wassermann was negative. At that time all we could offer him was removal of such foci as teeth and hemorrhoids. Advised Beurger—Allen exercises, light tent to limbs, general hygiene of feet with special emphasis on the care of the toe nails. Receiving scarcely any benefit he went to Hot Springs for several weeks but showed no improvement there. He returned to Greenville and in March, 1933 Dr. Paul Gamble did a sympathetic ganglionectomy of the second, third, and fourth lumbar ganglions. He improved a great deal for six months but later developed an ulcer of the great toe of his right foot. He was again put to bed and was not able to work for a year. As we had no means of administering the positive and negative pressure at that time he was sent to another city where he took ten Pavaex treatments. The ulcer began to heal and his feet and legs were much warmer. On acquiring our machine in July he returned to us and the treatments were continued here. The ulcer was soon completely healed and for the past four months he has been working regularly as a salesman in a local drygoods store. He takes his treatments now only twice a week, and attributes his

present physical condition entirely to the Pavaex treatments.

The arteriosclerotics showed improvement in that the intermittent claudication disappeared, ulcers healed and there was increased warmth to the parts.

The cases of thrombosis were both benefited by lessened edema, disappearance of threatened gangrene and increased heat to the extremities, after ten and twenty-five hours of passive vascular exercises respectively.

Of these cases there is one whom I have classified as a failure but possibly unjustly so. He was sent to us with a gangrene of the four right toes, of ten days duration. His toes were all black and no pulsation could be felt. The popliteal artery was a cord. Believing this to be an endarteritis of the main vessel we attempted to improve the collateral circulation with energetic therapy of an hour twice daily to the leg. The leg improved during the first few days but at the end of the sixth day the gangrene had definitely spread up the foot. Because of the cord like vessel we were forced to amputate above the knee. An autopsy of the leg revealed scarcely any lumen to the popliteal, anterior and posterior tibials. The pathologist reported a small amount of narrowing of the membrane elastica of the medial and lateral geniculate vessels and smaller arterioles. There were also thrombi of the smaller vessels occluding their lumen. Had we gotten this patient within 12 or 24 hours of the onset of gangrene we may have been able to have amputated below the knee, but with vessels such as his I doubt if some kind of amputation could have been prevented.

Though this series of cases is far too small to base any definite conclusions upon, I feel with the exception of one that they were all markedly benefited by an alternating change in environmental pressures. Previously these cases were looked upon as hopeless, and most of them went on to amputation. No doubt many of these amputations can be prevented by Pavaex therapy, but just as in the cases of acute appendicitis and carcinoma if we are going to save these limbs, we are going to have to get them early before there is a complete obliteration of the main arterial and secondary arteriolar beds.

It is the opinion among those who have used this type of treatment that alternating suction and pressure in conjunction with foreign protein, heat, tent, Beurger-Allen exercises, fever machines, sympathectomies and ganglionectomies, and general hygiene of the feet that we have a rational and very beneficial method of treating peripheral vascular diseases.

It might well be used as a prophylactic measure for preventing a localized sclerosis and complete obliteration with gangrene in those cases of generalized arteriosclerosis.

In closing I would like to say that after reviewing the literature and studying these few cases, I believe that the younger individuals and individuals of middle age who develop a sudden or gradual occlusion of a peripheral blood vessel and whose myocardiums are reasonably healthy are going to be the ones who will be materially benefited by an alternating change in environmental pressures. We must not overlook the fact that in those individuals in the eighth and ninth decades of life, their coronaries are in the same condition as the peripheral vessels. And though these coronaries may have developed a collateral circulation within the heart itself, the myocardium has been considerably scarred.

Then we can hardly expect to drink from the faucet if the pump has broken down.

SUMMARY

1. A brief history, old and recent, was given on alternating positive and negative pressure.
2. The types of technique were mentioned.
3. The diseases of the vessels in which Pavaex treatment has been used were discussed and contra-indications given.
4. Clinical, laboratory, roentgenological, and surgical diagnostic tests were mentioned.
5. A review of a small series of cases was reported.
6. The value of the treatment both as a therapeutic and prophylactic measure was discussed.

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WALTER A. RUCH, M.D.

Practice Limited to Obstetrics

Suite 202 Physicians and Surgeons Bldg.

899 Madison

Memphis, Tenn.

HENRY G. RUDNER, M.D.

Clinic—Internal Medicine

1108 Madison Avenue

Memphis, Tenn.

THOMAS D. MOORE, M.D.
UROLOGY and UROLOGIC SURGERY
Suite 102-6

Physicians and Surgeons Building

899 Madison Avenue

Memphis, Tennessee

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Ophthalmology

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Memphis, Tenn.

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899 Madison Avenue — Memphis, Tenn.

R. L. SANDERS, M.D. **L. C. SANDERS, M.D.**
General Surgery Internal Medicine**M. P. KENDRICK, D.D.S.** **J. CASH KING, M.D.**
Oral Surgery Consulting

Roentgenologist

Suite 324—Physicians and Surgeons Bldg.

Memphis, Tennessee

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History is preeminently a study of the deeds, thoughts, feelings, and emotions of mankind. One of our American writers has well said that there are five clearly defined phases of human life—political, religious, educational, social, and industrial—which constitute the proper subjects for the history of any people.

Hydronephrosis Caused by Anomalous Vessels of the Lower Pole*

PAUL G. GAMBLE, M.D., F.A.C.S.
Greenville, Miss.

The frequent occurrence of hydronephrosis and its great variety of symptoms and sequelae are well known but not always fully considered when dealing with the individual patient. The condition may be continuous or intermittent. Dilatation of one or both kidney pelves depends, with some rare exceptions, to some obstruction to the outflow of urine. Such obstruction may arise from many causes. The present discussion is limited to one cause only: that of an aberrant or anomalous renal blood vessel. Walters of the Mayo Clinic, believes such vessels are the principal cause of hydronephrosis occurring above the utero pelvic junction. Quinley considers them the principal cause of hydronephrosis developing in the young.

Variations in the number, relations, and at-variations are so great as to be considered anomalous in 15% to 33% of individuals. (Jamiscn.) (Campbell).

Most of the anomalies are of no clinical importance (Pugh 0.6%) although their presence may demand special attention during operations on the kidney. They may be connected with either the upper or lower pole of the kidney.

Variations in the vascular attachments of the kidney are not surprising when one considers that the primitive kidney, in the embryo, received its blood supply from many vessels arising from the aorta in the lower thoracic and lumbar levels. Normally one of the lumbar group on each side persists, but others may persist as patent vessels, rarely of large caliber, often as minute twigs, or even fibrous cords.

It is only the anomalous vessel, usually an artery, attached to the lower pole of the kidney which can cause obstruction. This lower polar attachment occurs in 6% of individuals. (Eisendrath.) Such an artery may be one of two or three separate renal arteries or it may arise from the main renal artery, but is usually a separate branch, from the aorta or rarely the iliac, and in its course to the lower pole crosses over or under the ureter at, or a few centimeters below, the utero-pelvic junction.

That such an artery could cause obstruction

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to the ureter seems to have been recognized first in 1842 by Royer (Foley). Only within the past 20 years has this cause of hydronephrosis been given much attention, and within the past five years numerous articles have appeared on the subject.

The ureter is found at operation or autopsy, compressed, kinked, or bent where it is crossed by the anomalous vessel. Often the wall of the ureter is thinned out at this point.

Whether the aberrant artery is a primary or contributing cause of hydronephrosis is not entirely settled, or does it matter much since operative severance of the artery nearly always relieves the obstruction.

Quimby believes that the pulsation of an artery against the wall of the ureter interferes with ureteral peristalsis to a degree sufficient that, in time, proximal dilation results.

Since many instances have been demonstrated where such an artery never produced hydronephrosis, most authorities assume that some degree of renal ptosis is a primary factor. The mobile kidney, in its descent, drags the ureter over the vessel. The slight obstruction thus produced causes dilation of the pelvis which further adds to the weight and causes it to drag the more across the band like vessel. In this manner a vicious circle is created. Thus a mild degree of renal ptosis so common when there has been a loss of perineal fat from any cause, may become of serious moment when the kidney sags over the aberrant vessel to the lower pole. The same mechanism is operative, of course, when the kidney increases in size and weight due to hydronephrosis or disease of other origin.

Most of the reported cases have occurred in the early decades of life; many have been children. Females predominate among those cases reviewed. Four of our five cases were women.

SYMPTOMS

The symptoms are those of hydronephrosis. There are no symptoms which differentiate the cause as due to an aberrant vessel. There is usually a history extending over several months or back to childhood, characterized by periodic attacks of dull pain in the loin, or attacks simulating renal colic on one or both sides. Strain or trauma may precipitate attacks. Symptoms of pyelitis or cystitis complicating the condition, may predominate. Children are prone to suffer gastro-intestinal upsets coincident with attacks of hydronephrosis. Occasionally the kidney may be palpable and tender. There may be great dilation and loss of function without severe subjective symptoms. The urine may show much or little pus. Sometimes the amount of hematuria following an attack of pain is sufficient to cause a diag-

nosis of lithiasis to be made, either in the absence of radiographic or other evidences of stone. The urine was characteristic of nephritis in five of the children of Campbell's series. Painless hematuria has been reported. The ureteral catheter is usually not obstructed in its passage to the pelvis. In long standing cases renal function is impaired, sometimes lost on one side. Systemic symptoms of this lowered function, and infection may be severe.

DIAGNOSIS

The diagnosis depends upon the demonstration of free passage of catheter throughout the lower urinary tract and pyelogram that demonstrates a dilation limited to the pelvis alone. Dilation may be due to other causes. 1st, Calculi may be demonstrable. 2nd, constriction of the ureter due to inflammatory states, including fibrosis. These are usually not so sharply limited at the utero pelvic junction. A valve like high insertion of the ureter which causes back pressure is of occasional occurrence, not readily differentiated, but it is also a surgical condition.

The pyelogram shows an abrupt transition from a more or less dilated renal pelvis to the ureter which is not at all dilated, or may not be visualized. This transition occurs sharply at the pyelo-ureteral junction in most cases; occasionally a centimeter or two lower down. The condition is frequently bilateral although symptoms may be limited to one side. Intravenous pyelography is of great service in demonstrating this abrupt narrowing, which is fairly characteristic of obstruction caused by an aberrant vessel. Since renal ptosis is usually a feature in these cases the pyelogram made with the patient erect may afford more conclusive findings. If the pelvis empties itself in from 7 to 9 minutes, one may conclude that obstruction does not exist, regardless of the pyelographic appearance.

TREATMENT

Little or nothing is to be expected from kidney supports.

Ureteral dilation is not effective against this cause.

Treatment is primarily surgical. Fenger (1907) is credited with having performed the first operation for relief of hydronephrosis caused by an aberrant vessel. (Hand.)

There is every reason to urge surgical treatment when these cases are recognized in an early stage, while the kidney may yet recover from whatever damage it has suffered because of continuous back pressure, and, as a rule, some degree of infection, is to be expected if obstruction is not relieved.

When renal function is impaired or infection is marked the usual preoperative period of ureteral catheter drainage is indicated.

Very often nothing more is required than severance and ligation of the small artery or fibrous cord which restricts the ureter. Since the kidney is usually mobile some form of nephropexy is advisable when the kidney is replaced. Peirson followed six cases for from six months to several years and found the anatomic results and symptomatic relief entirely satisfactory in all but one case.

Occasionally the vessel is so large that its severance would result in atrophy of a greater amount of kidney substance than the patient can well afford to lose. (This would be rare according to Sanford, but might be serious according to Huggins, both of whom have investigated the question by injecting the vessels.) Or perhaps necrosis and secondary infection of the devitalized lower pole would be expected to ensue. In such cases some form of plastic operation on the kidney pelvis is required, such as ureteral transplantation, resection and reconstruction of the pelvis, etc. An ingenious plastic operation, applied to this type of hydronephrosis has recently been described by Young. Such operations are not always successful or free from serious complications. Failure may result in the complete loss of a kidney.

When the renal tissue has been almost or quite destroyed by hydronephrosis, infection or both, nephrectomy is the only procedure to be considered. One of our cases was a tubercular kidney, a rare coincidence with hydronephrosis, caused by an aberrant vessel. (Harris.)

CASE REPORTS

Case 1

Mrs. W. Age 72. Family history negative. Past history—the ordinary diseases of childhood, pneumonia (1). For several years had had repeated attacks of renal colic on left side which was diagnosed as being due to a kidney stone. Present illness began three weeks before admission to the hospital with severe pain in left kidney region and marked frequency of urination, marked pain on pressure over the left kidney, and rigors and fever.

Physical examination showed lungs resonant. Heart mitral regurgitation with marked generalized arteriosclerosis. Examination of abdomen negative except for marked soreness and tenderness over the left kidney, left kidney palpable. Pelvic examination showed the uterus atrophied. Urinalysis showed many pus cells, some blood, a trace of albumin, no sugar. Blood count showed a leukocytosis. Cystoscopic examination showed the bladder chronically inflamed, with left ureter red and swollen. Urine obtained through catheter from left kidney showed many pus cells and blood. 50 cc. of urine was withdrawn from the left pelvis. Pyelogram showed a hydronephrosis with the location at the uretero-pelvic junc-

tion. There was practically no dilation of the ureter. P.S.P. showed no excretion of phenol-sulphophthalein; excretion from the right kidney was good.

At operation it was found that the hydronephrosis was due to a large aberrant vessel attached to the lower pole of the left kidney. On account of the marked destruction of kidney substance a nephrectomy was done, and the patient made an uneventful recovery.

Case 2

Mrs. J. P. Age 33 years. Family history negative. Past history—several years previously had had appendix removed on account of pain in right side. Had had no illnesses with the exception of renal colic from time to time for the past two years. Present illness began with sudden pain in the right kidney, nausea, vomiting, painful frequent urination and marked soreness over the entire right side of abdomen.

Physical examination showed a well developed woman. Heart and lungs normal. No pathology in the circulatory system. Palpation of abdomen showed marked soreness and tenderness over the right kidney.

Urinalysis showed many pus cells and blood in urine. Blood count normal. Cystoscopic examination showed the right ureteral opening bulging and open. A catheter passed up the entire ureter without any obstruction, and 40 cc. of residual urine was withdrawn from the affected kidney. Pyelogram was made with catheter in place. This showed a dilated pelvis but no dilation of the ureter. P.S.P. showed only 10% in the affected kidney.

On account of her age, and the comparatively short duration of the symptoms we attempted palliative treatment by frequent catheterization of the right kidney, but after three months of such treatment nothing had been gained and operation was advised.

At operation the artery was found to be about the size of a match; it crossed under the ureter and was attached to the lower pole. The artery was cut and ligated with the intention of leaving the kidney, but the part of the kidney supplied by this artery became very cyanotic, and it was deemed best to remove the kidney and not take chances on a necrosis developing due to the blocking of the blood supply coming from the aberrant artery.

Case 3

Mrs. A. A. H. Age 46. Family history negative. Past history—the ordinary diseases of childhood, pleurisy with effusion at age 20. Previous operations appendectomy and cholecystectomy. History of present illness beginning two years previously with attacks of renal colic, painful and frequent urination, marked soreness and tenderness over the right kidney. Irregular chills associated with elevation of tem-

perature.

Physical examination showed a few rales at the base of right lung. Heart normal. Abdomen—scar of previous appendectomy and cholecystectomy, marked soreness and tenderness over region of right kidney, a mass could be felt in the right kidney fossa. Urinalysis, straw, turbid, alk. specific gr. 1013, albumin trace, sugar negative, casts negative, very many pus cells, few blood. Blood count, Hb. 75, R.B.C. 4,190,000; W.B.C. 5,950; L. 27; M. 1; Polys 72, Malaria negative. P.S.P. test showed practically no function in the right kidney and impaired function in the left. Pyelogram showed a right hydronephrosis with marked dilation of ureter. Left kidney hypertrophied. This patient was advised to have the kidney removed on account of a tubercular infection. At operation an aberrant renal artery was found obstructing the ureter at the pelvic junction. The artery was about the size of the radial artery. The kidney and ureter were both removed and the patient made an uneventful recovery.

The bladder symptoms were entirely relieved; she has gained several pounds in weight, and at present is in good health. Cystoscopic examination made recently did not show any tubercular infection in her bladder and the urine is free of tubercular bacilli.

Case 4

Mrs. D. A. E. Age 35. Family history negative. Past history ordinary diseases of childhood. Former operations—hysterectomy and perineorrhaphy for the relief of uterine prolapse and lacerated perineum. Had complained of backache since childhood.

Present illness began two years ago with severe backache over the region of both kidneys, indigestion and nausea at times. At no time did she ever have any physical symptoms of renal colic. Physical examination—chest negative. Abdomen—some soreness and tenderness over kidneys; both kidneys palpable due to ptosis. Examination of urine at times would show considerable pus but most of the time only a few pus cells; at no time had she shown blood in her urine. Blood count, Hb. 80, R.B.C. 4,100,000 Leukocytes 9,100, L. 24; M. 3, Polys 76, Malaria negative. Cystoscopic examination did not show any trouble within the bladder, and the catheter passed up both ureters without meeting any obstruction. A pyelogram was made of both kidneys which showed a slight hydronephrosis; no stones were demonstrated by the X-ray. P. S. P. showed normal function of both kidneys. At first the hydronephrosis was thought to be due in all probability to the ptosis and the patient was advised to have her kidneys anchored.

At operation—in addition to the ptosis a small aberrant vessel was found crossing un-

der both ureters. The vessel originated from theorta. The vessels were ligated and cut and both kidneys anchored. Patient has had marked improvement in health, but still complains of some backache at times.

Case 5

H. H. M., white, male, age 60. Family history negative. Past history diseases of childhood. Pneumonia in 1912. Fracture of the spine, lumbar region in 1907 which resulted in paralysis of the lower limbs for several months. Present illness began two months before admission to the hospital with an attack of renal colic associated with nausea and vomiting. Pain was severe enough to necessitate the administration of morphine. Physical examination showed lungs normal. A slight degree of arteriosclerosis, no cardiac lesions could be heard. Examination of abdomen was negative except for tenderness over the right kidney. Urinalysis, yellow, turbid, reaction acid sp. gr. N.S. albumin trace sugar negative, casts negative, pus cell many, blood occasional.

Blood: Hb. 75; R.B.C. 4,600,000. W.B.C. 7,200; L. 36, M. 1, Polys 53, Eo. 5, Malaria negative.

P.S.P. normal. X-ray examination of the kidneys showed a shadow in the lower pole of the right kidney and a diagnosis of stone was made. Cystoscopic examination showed no abnormalities in the bladder and catheter passed up the right ureter without meeting any obstruction, 10 cc. of urine was withdrawn from the right pelvis which contained some blood. A diagnosis of renal calculi was made and the patient advised to have calculi removed.

At operation we were unable to find any stone in the lower pole of the pelvis where the X-ray showed the shadow, however, there was a markedly sclerotic area in the lower pole that corresponded with the X-ray shadow. An aberrant renal artery and vein was found crossing under the ureter. This was divided and ligated. The pelvis of the kidney was incised and a thorough search was made for the stone. The aberrant artery and vein were cut and ligated, and the kidney was not removed. The wound closed with a small drain down to the opening in the pelvis. The patient made an uneventful recovery and has had no recurrence of pain.

Unfortunately I did not make a pyelogram in this case because I felt sure that the shadow demonstrated by the X-ray was a calculi. I believe that this patient's attacks of pain were due to the aberrant renal vessel kinking the ureter at its utero-pelvic junction.

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Who's Who In Mississippi Medicine



DR. E. L. WALKER

Each day we see the praises sung and heralded to the world of those men who are giving their lives to research and the unfolding mysteries of medicine, and are often so interested in them that we forget those who are putting into practical application the results of those researches.

There lives in Simpson County, Mississippi, one of the type of the family physician, that is so fast disappearing, who for thirty-five years has been ministering to the community which gave him life, sat by the bedside and nursed them back to health; has presided over the sad rites of those who are beyond human aid; has ushered into the world more new lives perhaps than any physician of this section of

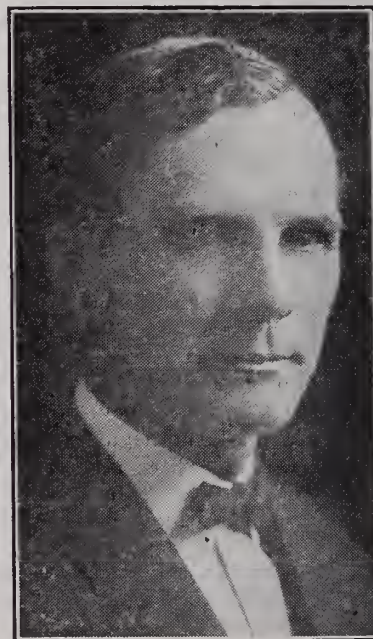
the country; has eased the pain of the suffering mother and anxiety of the friends and relatives, has lived long enough to nurse those children to mature men and women and deliver of those the second generation. He has felt all the vicissitudes of life, spent his time in the rain, mud and cold quietly carrying on the work of promoting human happiness and relieving human suffering, his praises unsung except by those whom he has relieved and made happy.

Dr. E. L. Walker, of Magee, Mississippi, was born at Rials Creek, near Magee, March 6, 1873. He was graduated from the high school of his native county, and graduated in medicine from the University of Nashville in 1900, and has practiced his profession in the same community for the thirty-five years. With all of his hard work he has kept abreast of the modern practice of medicine. He was recently elected President of the Central Medical Society; is a man loved by all and respected by his profession for assurability and his unusual capacity for doing the practical thing at the right time.

HENRY BOSWELL, M.D.

Sanatorium, Miss.

Dr. T. M. Dye



Dr. T. M. Dye, of Clarksdale, secretary of the Mississippi State Medical Association. Dr. Dye is efficiency personified and he is a diplomat of the first order.

Dr. R. B. Caldwell



Dr. R. B. Caldwell, of Baldwyn, councillor of the second district. He is the baby member in time of service, we believe. But he has been active in organized medicine for many years. He will prove a valuable member of the council. He exercises reason and he is diplomatic.

Dr. Lowrey Rush



Dr. Lowrey Rush, of Meridian, is ably representing his district on the council. What he speaks so loud that but few words are needed. He is a leader in the profession in actual accomplishments. He is broadly educated, courteous and refined. He is active in organized medicine of the state and one of the chief corner stones in his home town, which

is one of the outstanding medical centers of Mississippi.

Dr. Joseph E. Green



Dr. Joseph E. Green, "the silent," a native of Perry County, born March 12, 1885, son of Samuel I. and Kathern Fairley Green. He graduated with honors from Tulane in 1909. Before getting well settled at Laurel Miss., he practiced the chosen art at McLain, Water Valley, Richton, and Hattiesburg. He has always been active in Masonic circles having served as Past Patron, Order of Eastern Stars and Past Grand Master of Mississippi Masons. He is senior physician in charge of medical patients, Masonite Corporation, Laurel. He came on the council by appointment of Dr. E. F. Howard succeeding Dr. E. M. Gavin, resigned. And since his appointment he has been elected twice by the association as councillor for the 7th district. He has served as president and secretary of the South Mississippi Medical Society. He is now giving special attention to the practice of obstetrics and pediatrics, on which subjects his opinion is highly respected throughout the south. When it comes to ready wit, keen and cutting, original and timely, he is always the winner. General Forest said, to win a battle "get there firstest with the mostest men." When Dr. Joe engages in lingual combat on a convention floor he showers his verbal shrapnel with the mostest keen wit and convincing philosophy.

Scientific medicine begins with the time of Hippocrates in the days of ancient Greece. Then, for the first time, is there apparent a gradual separation of the art and science of healing from the methods of superstition and blind belief.

Dr. Daniel J. Williams

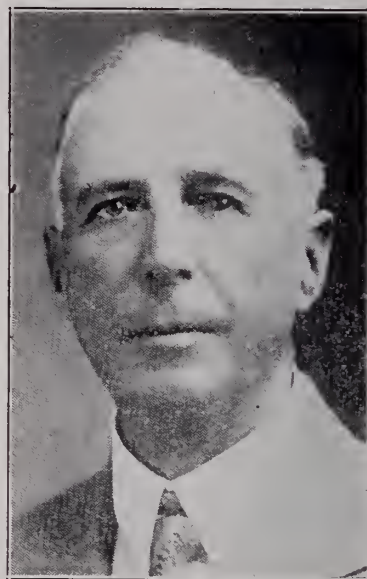


Doctor Daniel J. Williams, of Gulfport, chairman of the council and father of them all on this body. He is one of the best known men in the medical association in Mississippi. He has been active for organized medicine. Dr. Williams graduated from Tulane in 1890, was soon licensed to practice and became a member of the Mississippi State Medical Association. He was the first councillor for the eighth district and he was very active in organizing county medical societies. In 1908 he was appointed as a member of the State Board of Health having been one of the nominees of the Mississippi State Medical Association as a member from the state at large with Drs. L. L. Dickerson, G. S. Bryan, E. A. Cheek, and John Darrington. In 1911 he was unanimously elected president of the Mississippi State Medical Association. At the Hattiesburg meeting of the Southern Medical Association he was elected one of the vice-presidents. In 1918 he was again elected to a place on the council, and since 1920 he has served as its chairman. He has served as chairman of the section on medicine, twice as chairman of the section on Public Health and Hygiene, five times he has been a delegate to the A. M. A. In 1915 he was appointed part time health officer for Harrison county, in 1917 he became all time health officer for this county, which position he still holds. November 30, 1918 he was married to Miss Lola Maude Hepler, Winfield, Kansas, a true helper broadly educated, cultured and refined.

You really can't think of organized medicine in Mississippi without thinking of Dr. Dan Williams. He is a man of deep convictions. You may not always agree with him, but you will always respect his sincerity of purpose. In deed and in truth he has been and he is a cor-

ner stone in organized medicine in Mississippi.

Dr. T. J. Brown



Dr. T. J. Brown has been councilor about eight years now, and like his practice, he has made the interests of the association worthy of his best efforts. Dr. Brown has been quietly dispensing a great service to his town and community for about forty-six years, having been licensed to practise in Mississippi in 1886. He is a county health officer of the first degree and has a fine record. This record of service he regards with far more honor than his "official honors," as he refers to the various officers he has held in local or other organizations. By such members of the profession as Dr. Brown, have the true ideals of professional honor and service to humanity, been kept exalted through the past generation.

In the beginning medicine was largely a system of magic and mysticism. Believing that all disease represented a seizure by some demon of illness, men endeavored to conjure the demons forth from the body. This they did by magic. They danced naked about fires at midnight, they burned incense, murmured strange formulas and had confidence in amulets and charms.

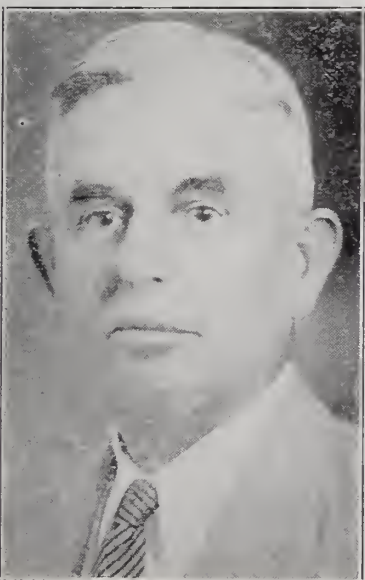
"A wit once remarked on the Homeric question, that the poems were not written by Homer but by another man of the same name, and this may likewise apply to the Hippocratic writings. There were seven physicians bearing the name of Hippocrates who lived during the period when this collection was being written, but it is generally conceded that the Father of Medicine was the second of these."

Dr. W. H. Frizzell



Dr. W. H. Frizzell, of Brookhaven, secretary of the council. Dr. Frizzell has been a prominent leader in the state association for at least two decades. He has served as president of the Mississippi State Medical Association and in the state board of health. He is the legal mind of the association, the authority on the constitution and by-laws. In addition to being a leader in organized medicine he is a very progressive citizen lending his aid to every worthy cause.

Dr. L. L. Minor



Dr. L. L. Minor, Memphis, Tenn., Route. He is an alumnus of the University of Tennessee, is active in Masonic circles and is a member of

the Methodist church. He is a native Mississippian. He has served as president of Clarksdale and Six County Medical Society and as councillor of the first district. He is now serving his fifth year for the Second District. He is a fair-minded man full of reason. The better you know him the more you like him.

"The man who wins is an average man,
Not built on any particular plan,
Not blessed with any particular luck;
But earnest and steady and full of pluck."

Dr. J. W. Lucas



Dr. J. W. Lucas, Moorhead, Miss., councillor of the first district. He has served in this capacity for eight years. He has been county health officer for Sunflower county eight years, local surgeon of the C. & G. R. R. thirty years, District surgeon for the Illinois Central system thirty years, official physician for the National Editorial Association for five years. He is now president of the Delta Medical Society. Dr. Lucas is an obstetrician of splendid ability. He is an optimist, he carries good cheer. He has poise and plenty of common sense.

Surgical Congress to be Held In New Orleans

The seventh annual assembly of the Southeastern Surgical Congress will be held in New Orleans, March 9, 10, 11, 1936, at the Roosevelt Hotel. The following surgeons have accepted places on the program:

Dr. Arthur Hertzler, Halstead, Jan., Dr. Chevalier Jackson, Philadelphia, Pa., Dr. Francis E. LeJeune, New Orleans, La., Dr. Arthur W. Allen, Boston, Mass., Dr. John F. Erdmann, New York City, Dr. Jennings Litzenberg, Minneapolis-

lls, Minn., Dr. Joseph E. King, New York City, Dr. Fred Rankin, Lexington, Ky., Dr. C. C. Howard, Glasgow, Ky., Dr. George W. Crile, Cleveland, Ohio, Dr. Garnett W. Quillian, Atlanta, Ga., Dr. Paul Flothow, Seattle, Wash., Dr. Alan C. Woods, Baltimore, Md., Dr. Virgil S. Counsellor, Mayo Clinic, Dr. Alfred A. Strauss, Chicago, Ill., Dr. W. D. Haggard, Nashville, Tenn., Dr. Roger G. Doughty, Columbia, S. C., Dr. Thomas E. Cormody, Denver, Col., Dr. Charles O. Bates, Greenville, S. C., Dr. Guy Caldwell, Shreveport, La., Dr. Gerry Holden, Jacksonville, Fla., Dr. Emmerich von Haam, New Orleans, La., Dr. Roger Anderson, Seattle, Wash., Dr. A. Street, Vicksburg, Miss., Dr. James S. McLester, Birmingham, Ala., Dr. Edgar Fincher, Atlanta, Ga. There will be others.

Dr. W. H. Watson



This will introduce you to Dr. W. H. Watson, Whitfield, Miss., whose record speaks so strongly that what we say falls lightly. Dr. Watson served on the State Board of Health from January, 1917 to May, 1930, served both by appointment and by election of the State Medical Association. He is now serving his second term on the council in the district. He thinks more than he talks. "Character is higher than intellect." He is mentally strong and he is the type of man who wins confidence and compels respect.

Resolutions

The following resolutions of respect and appreciation were adopted at a recent meeting of the Clarksdale and Six Counties Medical Society:

In every community there is always some one man who stands out from the common

herd—some man who has a little more of the Divine something in him than the average run of mortals.

In every profession, locally, there is always a member who towers above the others of us in that profession—whose science and whose soul are just a little above and beyond the average of us.

In every circle of friends there is always one who gets just a little closer to you than the others, who can put his arm about you just a little more lovingly and meaningfully than the others.

In this community in the medical profession and among our friends this man was J. W. Gray. He is gone now and no longer will we look into his kindly eye nor listen to his helpful word, but we shall not forget him. He was our friend and we shall love his memory.

Resolved that these resolutions be spread upon our minutes, that a copy be sent to the family and that copies be given the local press.

THE COMMITTEE

Publication Changes Name

THE RADIOLOGICAL REVIEW & CHICAGO MEDICAL RECORDER, published at Quincy, Illinois, since 1924, will change its name beginning in January and become the RADIOLOGIC REVIEW & MISSISSIPPI VALLEY MEDICAL JOURNAL, the official publication of the recently formed Mississippi Valley Medical Society. The editorial policies will be the same as the old Radiological Review with the addition of the publication of the papers read before the Mississippi Valley Medical Society. Dr. Harold Swanberg, the secretary-treasurer of the Mississippi Valley Medical Society and editor of the old journal, will remain as editor. The editorial board of the Radiologic Review will be supplemented by an editorial board from the membership of the Mississippi Valley Medical Society comprising the following:

Isaac A. Abt, M.D., Chicago, Ill.; Karl A. Myer, M.D., Chicago, Ill.; M. Pinson Neal, M.D., Columbia, Missouri; Quitman U. Newell, M.D., St. Louis, Missouri; F. Garm Norbury, M.D., Jacksonville, Illinois; Walter Stevenson, M.D., Quincy, Illinois; Dan G. Stine, M.D., Columbia, Missouri; Meyer Wiener, M.D., St. Louis, Missouri.

The new publication will be published by the Radiologic Review Publishing Company, at Quincy, Illinois.

"Life is short, and the Art long; the opportunity fleeting; experiment dangerous, and judgment difficult. Yet we must be prepared not only to do our duty ourselves, but also patient, attendants, and external circumstances must cooperate."

One of a series of advertisements prepared and published by PARKE, DAVIS & CO. in behalf of the medical profession. This "See Your Doctor" campaign is running in the Saturday Evening Post and other leading magazines.



For 1936: a new outlook on life

THIS is a message to people who have been turning their backs on a very good friend the whole year long.

That friend is a *symptom*—some sign of disturbance within your body, perhaps a pain, or some other vague warning, that has been trying to say to you, "There's something wrong. May be trouble ahead. Do something about it."

Why carry the mistakes of the old year over into the new? Why let the neglect of the past throw a shadow over your hopes, and plans, and resolutions for the future? Before the new year dawns, do something about that warning. Do the intelligent thing—*see your doctor.*

He is the one person who can say whether your trouble is a trivial one—or whether it may, if left uncurbed, seriously affect your success and happiness in the years to come.

Perhaps these past several disturbing years have drawn your nerves taut, or lowered your general resistance.

Perhaps the years have contributed too generously to your weight, thus putting an unfair burden upon your heart. Or perhaps he'll find some functional disorder which is capable of reaching serious proportions if neglected. Let your doctor decide what ought to be done.

And if he should find only some minor ailment, which will yield

quickly to treatment, you'll have the thrill of getting a good bill of health from the one person who can give it. What a start for a bright new year—to be able to walk from your doctor's office, head high, unafraid, to face 1936 with the invigorating knowledge that you have the physical equipment with which to fight for the things in life you want most!

PARKE, DAVIS
& COMPANY
DETROIT, MICHIGAN

The World's Largest Makers
of Pharmaceutical and Biological Products

LIST OF CONTRIBUTORS TO THE MISSISSIPPI DOCTOR, FOR 1935

Below you will find a list of ninety-five contributors to the Mississippi Doctor for 1935. There are a few on the list who did not write a technical paper. When you read and study this list we believe you will find the explanation to the often repeated expression by the leaders of the medical profession of the country, that, "The Mississippi Doctor is the most readable and the most helpful journal that comes to my desk." The Mississippi Doctor has definite plans. It selects men to write definite papers. It gives its readers the benefit of the clinical observation and experience of the practitioner out at the cross roads and it carries him up step by step to the super specialist. As well as trying to give its readers technical information covering the entire field of medicine and surgery, it discusses and has discussed the problems of medicine, the social ethics and economical problems involved in it. Raising the standard of the general practitioner and bringing better medical service to the small town and the rural community has been one of the chief purposes of The Mississippi Doctor. It has been a leader in promoting the community hospital. It has urged the importance of an affiliation, a co-operation, between the practitioner and the specialist, between the small hospital and the large. It has urged the importance of carrying post-graduate courses out to the busy practitioner.

The Mississippi Doctor was founded by the Houston Hospital, Drs. V. B. Philpot and J. Rice Williams and G. G. Armstrong being chief among the ones giving it birth. For ten years now it has been the property of the North East Mississippi Thirteen County Medical Society which has added one dollar to each membership fee to aid in its support. It, in turn, has published all the papers read before the local society. The editor has been responsible for the further financing of the journal. The Mississippi Doctor has been active for ten years in helping to build the Mid-South Post Graduate Medical Assembly. Three years ago it was adopted as the official organ of this great association without any financial responsibility on the part of that society. Since that time it has published all the papers of the association and about five thousand copies each year in special edition boosting the annual meeting in February. During this time only one dollar has been charged for subscription. Beginning with this issue, January, 1935, it becomes the official organ of the Mississippi State Medical Association. No "un-ethical" advertising has been used by The Mis-

issippi Doctor. Its founders set apart the front page for a poem, a picture or the promotion of some worthy idea, each month. This page is now worth three hundred dollars per year for advertising, but it is sacred and set apart and will continue as far as the present editor is concerned to distinguish The Mississippi Doctor.

In 1936 the number of contributors will be increased and the quality will not be lowered. Advertisers and subscribers would do well to consider The Mississippi Doctor.

List of Contributors to The Mississippi Doctor for 1935:

Dr. Douglas D. Baugh, Houston, Miss.
 Dr. Travis McGahey, Birmingham, Ala.
 Dr. Van C. Temple, Hattiesburg, Miss.
 Dr. H. D. Chipps, Corinth, Miss.
 Dr. J. M. Hood, Houlika, Miss.
 Dr. Felix J. Underwood, Jackson, Miss.
 Dr. Leon S. Lippincott, Vicksburg, Miss.
 Miss Kate Lou Lord, R.N., Vicksburg, Miss.
 Dr. H. Lowry Rush, Meridian, Miss.
 Dr. Guy A. Caldwell, Shreveport, La.
 Dr. G. S. Bryan, Amory, Miss.
 Dr. Clyde M. Speck, New Albany, Miss.
 Dr. G. A. Hendon, Louisville, Ky.
 Dr. W. A. Ruch, Memphis, Tenn.
 Dr. Dewell Gann, Jr., Little Rock, Ark.
 Dr. Charles C. Reed, Jr., Little Rock, Ark.
 Lucy Marion Reaves, Little Rock, Ark., Arkansas Hospital St. Vincent's.
 Dr. R. L. Sanders, Memphis, Tenn.
 Dr. L. C. Sanders, Memphis, Tenn.
 Dr. Seale Harris, Birmingham, Ala.
 Dr. Wm. Milton Adams, Memphis, Tenn.
 Dr. J. R. Hill, Corinth, Miss.
 Dr. Henry G. Rudner, Memphis, Tenn.
 Dr. M. Pinson Neal, Columbia, Mo.
 Dr. John A. Kolmer, Philadelphia, Pa.
 Dr. Warfield T. Longcope, Baltimore, Md.
 Dr. P. W. Rowland, Oxford, Miss.
 Dr. Logan Clendenning, Kansas City, Mo.
 Mrs. Dan J. Williams, Gulfport, Miss.
 Dr. Walter A. Bastedo, New York, N. Y.
 Dr. P. C. Jeans, Iowa City, Iowa.
 Dr. H. N. Cole, Cleveland, Ohio.
 Dr. W. Wayne Babcock, Philadelphia, Pa.
 Dr. Don. C. Sutton, Chicago, Ill.
 Dr. Franklin T. Bower, Hattiesburg, Miss.
 Dr. N. S. Dickson, Aberdeen, Miss.
 Dr. Ben Witt Key, New York, N. Y.
 Dr. Russell S. Ferguson, New York, N. Y.
 Dr. Philip Harold Jones, Jr., New Orleans, La.
 Dr. Ambrose H. Storck, New Orleans, La.
 Dr. S. F. Hoge, Little Rock, Ark.
 Dr. V. B. Philpot, Houston, Miss.
 Dr. A. G. LeRoy, Booneville, Miss.

- Dr. C. H. Love, Aberdeen, Miss.
 Miss Ann Sanders, R.N., Houston, Miss.
 Dr. T. K. Lewis, Birmingham, Ala.
 Dr. Rudolph Matas, New Orleans, La.
 Dr. Alton Ochsner, New Orleans, La.
 Dr. Kiyoshi Hosoi, New Orleans, La.
 Dr. Edley H. Jones, Vicksburg, Miss.
 Dr. W. H. Brandon, Clarksdale, Miss.
 Dr. Isidore Cohn, New Orleans, La.
 Dr. W. H. Parsons, Vicksburg, Miss.
 Sister Celestine, New Orleans, La.
 Dr. Pol N. Coryllos, New York, N. Y.
 Dr. O. H. P. Pepper, Philadelphia, Pa.
 Dr. M. B. Hendrix, Memphis, Tenn.
 Dr. C. H. Heacock, Memphis, Tenn.
 Dr. F. L. McGahey, Calhoun City, Miss.
 Dr. L. B. Morris, Macon, Miss.
 Mrs. Vera Blood Fletcher, Hot Springs, Ark.
 Dr. George Crile, Cleveland, Ohio.
 Dr. W. H. Witt, Nashville, Tenn.
 Dr. J. T. Davis, Corinth, Miss.
 Dr. Ralph Pemberton, Philadelphia, Pa.
 Dr. John P. Henry, Memphis, Tenn.
 Dr. E. Starr Judd, Rochester, Minn.
 Dr. M. Tischer Hoerner, Rochester, Minn.
 Dr. Edward A. Schuman, Philadelphia, Pa.
 Dr. Frank Fenwick Young, Covington, La.
 Dr. R. E. Wilson, Greenville, Miss.
 Dr. E. C. Ellett, Memphis, Tenn.
 Miss Mabel F. Pittman, R.N., Vicksburg, Miss.
 Dr. W. M. Cunningham, Jasper, Ala.
 Dr. James R. Garber, Birmingham, Ala.
 Dr. L. B. Otken, Greenwood, Miss.
 Dr. J. A. Beals, Greenville, Miss.
 Dr. J. N. Mecklin, Louise, Miss.
 Dr. H. M. Williams, Columbus, Miss.
 Dr. John W. Boggess, Jr., Guntersville, Ala.
 Dr. R. H. Christian, Baldwin, Miss.
 Dr. W. H. Anderson, Booneville, Miss.
 Dr. David E. Guyton, Blue Mountain, Miss.
 Dr. Willis C. Campbell, Memphis, Tenn.
 Dr. J. N. Ane, New Orleans, La.
 Dr. Wilburt C. Davison, Durham, N. C.
 Dr. Daniel L. Hollis, Biloxi, Miss.
 Dr. W. D. Rosborough, Sanatorium, Miss.
 Dr. W. T. Wooton, Hot Springs National Park, Arkansas.
 Dr. H. W. E. Walther, New Orleans, La.
 Dr. R. N. Whitfield, Jackson, Miss.
 Dr. J. M. Acker, Jr., Whitfield, Miss.
 Dr. C. D. Mitchell, Gulfport, Miss.
 Dr. Logan H. McLean, Sanatorium, Miss.
 Dr. H. B. Cottrell, Indianola, Miss.

Pulmonary Moniliasis*

W. A. DEARMAN, M.D.
 Gulfport, Miss.,

There have been observed on the Mississippi Coast in the past three or four years, at least six cases of primary pulmonary moniliasis. They were recognized after presenting considerable diagnostic difficulties. The acute cases resembling acute bronchopneumonia in onset, physical signs and clinical course; and the chronic cases resembling advanced pulmonary tuberculosis.

In 1931 my attention was first called to the possibility that this strange and new pulmonopathy was beginning to manifest itself; through the examination of a specimen of sputum that had been submitted to be examined for acid fast bacilli. The sputum was examined thoroughly (many slides), however, was negative for tubercle bacilli. In further studying the slides I was impressed with the large number of yeastlike cells present. They resembled somewhat the nuclei of disrupted pus cells; however, they were too numerous to escape observation, and excited suspicion. A culture of the sputum was made on a blood serum slant and this yeastlike organism seemed to grow luxuriantly: stained slides of this

culture with Loeffler's methylene blue revealed many round, oval, and elliptical yeastlike cells.

Not being too familiar with the morphologic and cultural characteristics of the various fungi, I enlisted the help and opinion of Dr. F. M. Johns of New Orleans, in identifying this fungus. I submitted several slides as well as a culture, and he replied that the slides and culture were certainly monillas, and that the organisms conformed to all the morphologic and characteristics of the monilia, as well as to the formation of acid in certain mediums and gas formation in the various sugar mediums.

The monilia has been universally looked upon as a saphrophyte, but under favorable conditions this organism has been known to become pathogenic for man and animals. Primary or secondary infection in man is generally attributed to direct contact or to inhalation. The condition is usually classified as the mild type associated with cough and mucopurulent sputum. Examination of the chest in these cases is often negative, however, it is not unusual to find a few scattered rales throughout one or both pulmonary fields. The course has a tendency to extend over a long period of possibly several months, and the patient may recover spontaneously, or the case may go on to the severe type with fatal termination. The moderate type may present the picture of bronchial catarrh. Fever, cough, paroxysmal dyspnea and blood streaked sputum are commonly observed. On physical examination, signs which are consistent with chronic bronchitis are us-

*Read before the Section on Medicine at the Sixty-Eighth Annual Session of the Mississippi State Medical Association, Biloxi, May 14, 1935.

usually found. This type of case can go on to the severe type, and is the type that often resembles pulmonary tuberculosis. Fever, loss of weight, anorexia, profuse night sweats, extreme fatigue, vague chest pains, cough, hemoptysis and profound dyspnea upon the least exertion may be present. Examination of the chest may give signs of pleural thickening or extensive consolidation. The cases showing extensive consolidation are usually fatal.

The acute cases may have an acute onset with a rapid progression to a fatal termination. The chronic cases are usually insidious in onset, and have a tendency to follow a protracted course; cases have been reported of this type that extended over a period of years. The maximum incidence of this disease is usually found in warm, moist climates and occurs in adult life. Males are more frequently affected than females. I have never observed a case in a child.

The organism may be found frequently as a secondary invader in pulmonary tuberculosis, pulmonary infarcts, lung abscesses and in malignancy of the lung, as well as, in chronic bronchiectasis. Bakst, Hazard and Foley of Boston in reporting two primary cases and one case secondary to pulmonary tuberculosis, make the assertion that monilia infections tend to leave the apexes clear. This, however, is not borne out in our series of cases.

As a rule fever may be absent, mild or moderate and the cases developing into the severe type usually have a terminal hyperpyrexia.

We have found nothing remarkable in reference to the hemogram, however, an increase in the eosinophile count, with a mild leucocytosis and lymphocytosis has been reported.

Roentgenologic studies may be negative, or may reveal the presence of nodules, peri-bronchial thickening, areas of infiltration, consolidation, fibrosis or pleural thickening.

The monilias are easily recognized in the sputum, stained for acid fast bacilli, and stain well with the ordinary dyes such as methylene blue and gentian violet. They are positive to Gram's stain. Monilias can be cultured on blood serum, glucose agar plates or any of the ordinary laboratory mediums such as agar and bouillon. When stained the monilia stands out as a bluish or blackish round, oval, or elliptical fungus, either in clusters or singly, and present, budding forms.

In obtaining specimens of sputum for examination it is important that the patient's mouth be thoroughly rinsed and the throat gargled with physiological salt solution, and a boiled jar or other sterile receptacle be used in which to deposit the sputum.

For the treatment of pulmonary moniliasis Castelani suggested the use of potassium iodide in large doses, 30 to 60 grains daily. Thymol by mouth has been recommended. Gentian

violet and methylene blue have been used with good results, intravenously. Roentgen therapy is said to be of considerable benefit. Insulin has been given to increase appetite and to obtain a gain in weight. Vaccines have been used with some success.

REPORT OF CASES

Only the most interesting of the series will be reported. I am reporting two cases of Dr. Charles LeBaron's and two of my own, inasmuch as we were mutually interested in these cases. Dr. LeBaron supplied the notes of his two cases.

Case 1. H. H. J., a white male, aged 52, druggist by occupation was taken ill July 30, 1931. Chief complaint, cough and pain in left chest. Had not been well for several months, nothing definite, complained of malaise and slight cough. Nothing of special interest in his past history. Dr. LeBaron saw him first on August 1, 1931. The patient at that time had a temperature of 99°F, pulse 76 at 8 a. m. Upon physical examination there was elicited dullness over the lower left lung. Sounds baffling between pulmonary tuberculosis and pneumonia. No pleural involvement. Specimen of sputum obtained and found negative for acid fast bacilli by three different technicians in the city, but later positive for monilias. The therapy consisted of 30 grains of potassium iodide three times a day. Several days later the temperature rose to 104°F and the patient expired the night of August 14, 1931, having been ill for approximately two weeks. No films of this patient's chest were ever made.

Case 2. H. A., a white male, aged 50, common laborer, was taken ill April 12, 1933, and presented himself at the office complaining of malaise, extreme fatigue and cough, which was very productive sputum streaked with blood, had been feeling bad for some time, temperature of 102°F. Examination of the chest revealed marked dullness of upper one-half of the left lung. Several sputum examinations were made for acid fast bacilli but were persistently negative. All the specimens of sputum showed monilias in abundance on primary smear, and on culture. On April 17 a roentgenogram of the chest was made with the following report:

"Examination of the chest shows thoracic cage to be normal. Both diaphragms normal. Heart and mediastinum displaced to the left. Right lung normal. The upper third of the left lung shows considerable diffuse increased density which appears to be due largely to thickening of the pleura. Underlying this there is involvement of the lung with an irregular area of consolidation and mottling which involves the upper half of the lung field. While tuberculosis can be ruled out, this has more the appearance of a fungous infection."

This patient had several profuse pulmonary

hemorrhages during his illness and ran a temperature elevation of 103 to 104 degrees in the afternoon. He became very much emaciated and expired May 15, 1933 after having been ill for approximately one month.

Case 3. H. N., colored male, aged 40, presented himself at the office November 7, 1931, complaining of cough, loss of weight and extreme weakness, some fever and night sweats. He had been feeling bad for several weeks. On physical examination many moist rales could be heard throughout the right lung, temperature 103°, pulse 120, respiration 29. A roentgenogram was made November 11, 1931 and the roentgenologist reported as follows:

"The right diaphragm shows slight elevation and blunting of the costo-phrenic angle with no pleural effusion. The left diaphragm is normal. The heart is normal in size, as is the orta, although this structure is slightly pushed over to the left. The upper mediastinum is wide and its limits poorly defined. On the right side the lung markings throughout are heavier than normal with several small areas of consolidation or coalescing densities in the upper third. There is marked increase in density along the mediastinal border above the hilum. The density is diffused without distinct borders. The vertebral and first space branches show considerable peri-bronchial infiltration.

IMPRESSION: "This may be an early tuberculosis, but might be easily fungus infection. The diffuse density in the upper right chest is probably due to a pleurisy from the mediastinal pleura."

Case 4. A. A. G., a white male, aged 58, laundryman, presented himself to Dr. LeBaron for examination early in 1934. For the past five years he had been growing progressively weaker, suffering of tachycardiac runs, dyspnea, frequent chest colds and had several syncopal attacks. He was also running a moderate, continued febrile movement. Digitalis seemed to have relieved him. Always had bronchial rales over both lung fields, some cough and expectoration. Fifteen examinations of the sputum were negative for acid fast bacilli and monilia may have been overlooked. During the absence of Dr. LeBaron from the city, the patient consulted another local physician who found suspicious signs in the chest suggesting tuberculosis and requested a roentgenogram to be made of his chest. On May 6, 1934 chest film was made and roentgenologist reported as follows:

"Examination of the chest shows heart and great vessels to be normal. Both diaphragms show old adhesions. Both hila are heavier than normal, especially the right. The markings from the right hilum to the first and second interspaces are

much heavier than normal and show evidence of fibrosis. There is considerable pleural thickening in the right apex extending to the third interspace. There is some scarring and fibrosis in the apex of the right lung. On the left side there is some scarring and fibrosis with a patchy calcification of the pleural down to the second interspace.

IMPRESSION: "Chronic tuberculosis of the fibroid type."

On his return to the city, Dr. LeBaron resumed the treatment of this patient, recognized the resemblance of this pulmonopathy to a case he had treated some year previous and had several subsequent sputum examinations made in which monilias were found in abundance. The patient was sent to the hospital and given 30 grains of iodide potassium, administered three times a day. He had gained in weight, and there is scarcely any expectoration and the febrile movement has subsided.

SUMMARY

A diagnosis of monilia infections can only be made by repeated examinations of the sputum with an absence of tubercle bacilli. The physical signs in the lungs are often confusing and misleading and closely simulate bronchopneumonia in the acute cases, and pulmonary tuberculosis in the chronic type.

The diagnosis of pulmonary moniliasis should be considered in any case of pulmonary disease in which the etiology is questionable, either as a primary condition, or secondary to some other pulmonopathy.

DISCUSSIONS

DR. HENRY BOSWELL (Sanatorium):

I thoroughly enjoyed Dr. Dearman's paper and discussion of this particular subject. It is rather instructive to us—to every practitioner of medicine, and leads us to realize that everything one finds in the chest is not pulmonary tuberculosis. So often we have been inclined to believe that in diseases of the chest that we find lasting over a period of a few weeks, must of necessity be tuberculosis. However, in more recent years there has been quite a tendency to work it out from a more or less scientific standpoint. I am not going to bring out anything new. Monilia infection of the lungs has been reported from time to time from various sections of the country, in varying numbers of cases. I merely wish to emphasize one or two things that Dr. Dearman brought out in his paper, and to add just a little bit to his method of examining the sputum and arriving at a diagnosis on the sputum examination.

In this paper he states that he uses the method of washing out the mouth and gargling the throat. Inasmuch as the mouth seems to be the normal habitat for the various number of

fungous organisms, I believe that it would be quite safer and we would be very much more conservative in arriving at a proper diagnosis by having a dentist in cooperation with us to clean up the mouth and then attempt to get a specimen of the sputum after the mouth has been thoroughly cleaned out. We all know that the ordinary washing of the teeth will not get rid of a number of fungi that may be present, and that a specimen of sputum from almost any individual will show some type of fungi and moniliasis may be present, or there may be any number of other kinds. I therefore suggest that in addition to the normal simple method, that it be done in cooperation with some good dentist.

I further suggest that a safer procedure would be to have 24-hour specimens of sputum over a longer period of time properly concentrated and make an inoculation. There are many cases of tuberculosis and other diseases of the chest that it is impossible to diagnose in the ordinary routine of work and that it requires the patience of Job to work them out.

All of this is important for this simple reason that the treatment of any of the fungi in the lung—the proper treatment—the treatment we know will get results, will kill your cases of tuberculosis, and from the patient's standpoint it is very important to be able to say that there is no tuberculosis present in that chest. Potassium iodide given to an individual with an old lesion of tuberculosis is about the same as shooting him. Potassium iodide is the stand-by. The administration of deep X-ray therapy which unquestionably will kill a great many of the various fungous growths, likewise breaks down any lesion of tuberculosis present, and your patient goes out right away.

I think that is about all that I can add to that. I am just cautioning you that it is better to go very slowly and to be very careful, and to extend the examination a little more in detail and in such a way that we can feel reasonably sure that we are on the right track before we start the administration of remedial agencies. Thank you.

DR. J. A. BEALS (Greenville):

I think Dr. Dearman brought you a rather important subject and presented it in a most attractive manner. I do not feel like these fungus infections of the lung are so very uncommon. Most of my experience has been in differentiating them from chronic tuberculosis rather than acute conditions.

I have records of eight interesting cases. One is that of a child who has been under treatment now for about seven years. She was first seen by Dr. R. E. Wilson when about six years old. The child gave the clinical appearance of well advanced tuberculosis, but it

was not quite typical as the distribution was not just exactly right. The child was a little too young to have an adult form of tuberculosis so wide spread. Then again—had the child as much involvement with tuberculosis as shown by the films, she should have been a very sick child and not able to go to the office. The monilia were regularly demonstrated in that child's sputum. She has taken large doses of potassium iodide and as long as she remains under the influence of the iodides she does quite well. The lesions of the lungs will clear up until one can scarcely tell there has ever been anything the matter with her, and then she leaves off the iodides and the condition will return.

I would like to leave perhaps one practical thing with you and that is, whenever a case is suspected of tuberculosis and the physical findings are not quite typical, suspect moniliasis or fungus infection of the lung. Do not give up the diagnosis entirely just because everything seems to point to tuberculosis except, perhaps, that you cannot find the tubercle bacilli in the sputum, or fail to find monilia fungi in the sputum on one examination.

Secondly, many of you examine your own X-ray films of the chest. You do not have an opportunity to refer them to specializing radiologists, and you know yourself many cases of tuberculosis can be diagnosed at a glance—they are perfectly apparent—it is written all over the films. There are others, though, that show what looks like tuberculosis at first glance, and yet it is not quite typical—it does not fit in with the clinical picture. By all means suspect that case of fungus infection, and then go to work on the sputum, and if you cannot find the tubercle bacilli keep on and I think you may find fungi in abundance.

Sputum should be examined fresh, because stale sputum which has been open to the air and not kept at a refrigerated temperature may accumulate fungi from the air which cannot be completely differentiated except by cultural methods which are not routinely carried out in most laboratories.

DR. SEALE HARRIS (Birmingham, Ala.):

I am not prepared to discuss Dr. Dearman's paper for the reason that I myself have never had a case of moniliasis of the lung, but some years ago Dr. Walsh of Birmingham reported several cases, and since his discovery of those cases in Birmingham, a number of other physicians have reported cases. Unquestionably the condition is a frequent one, and it will be found when doctors are looking for it. It has existed always and now is being recognized.

The real reason for my coming to the platform is to congratulate this Association on having one of its members make such a thorough study of a condition that he had not been

familiar with before. No one at the Mayo Clinic or anywhere else, could have made a more thorough and painstaking study of this condition than Dr. Dearman has.

Just one other thought, and that is that the monilia—the various forms of the fungus—are wide-spread in nature and are associated with a great number of different conditions. All of you recall the work of Colonel Bailey K. Ashford, in Porto Rico, in reporting a large number of cases of sprue in which the monilia psilosis was so constantly present that he became convinced that it was the etiological factor. Some differ with Dr. Ashford, recently deceased, on that question, but it is very frequently found.

Some of you perhaps remember the work of Wood of Wilmington, N. C., who reported a number of cases of sprue in which the monilia were present, a number of cases of pellagra with it present, also a number of cases of pernicious anemia in which he found the monilia psilosis in the patients' stools. Wood became convinced that possibly the monilia might be one of the organisms that act as an etiological factor in pernicious anemia, in sprue and in pellagra. I had a case of pellagra several years ago in which we carried out Wood's methods and found the monilia present. I do not think, however, it was an etiological factor. I think it was simply an accidental finding.

MISSISSIPPI NEWS

Mississippi State Medical Association

HAPPY NEW YEAR

With the new year, THE MISSISSIPPI DOCTOR becomes the official publication of the Mississippi State Medical Association. The editor-in-chief of the journal, Dr. W. H. Anderson, has made extensive plans for giving to the Association a publication of which every member may be proud. It is now not only the responsibility of the county editors, the officers of medical societies, the officers of the Woman's Auxiliaries, and the officers of hospital organizations to provide the material, but there is a responsibility for every member of the Association to send in news notes and to make each volume of the journal a cross section index of all medical activities of the state. No better history of the Mississippi State Medical Association could be written than that furnished in monthly news items by those members working day to day in the field and themselves making that history. Its value in the future will be real.

Your editors of the Association are ready to do everything possible to make your journal of interest to you. When you do something

or when you have a thought for the betterment of medicine or practice, note it down and send it in. If you have suggestions or criticisms or advice, send them along. Let's work together.

As in the past all items for the section of the journal devoted to the Mississippi State Medical Association should be sent to the editor, Dr. Leon S. Lippincott, P. O. Box 303, Vicksburg, before the tenth of the month.

HAPPY NEW YEAR

DIRECTORY AND CALENDAR MEDICAL SOCIETIES

Information is not complete. Secretaries of societies are urged to send in full data so that it may be known when the societies of the state meet; also the names of the officers directing their activities this year should be shown.

ADAMS COUNTY MEDICAL SOCIETY: E. E. Benoist, Natchez, president; W. K. Stowers, Natchez, secretary. Meets third Tuesday each month, Natchez, 7:30 p. m.

AMITE COUNTY MEDICAL SOCIETY: D. H. Thornhill, Crosby, secretary.

CENTRAL MEDICAL SOCIETY: W. B. Jackson, president; L. W. Long, Jackson, secretary. Meets third Tuesday each month, Robert E. Lee Hotel Roof, Jackson, 7:00 p. m.

CLAIBORNE COUNTY MEDICAL SOCIETY: E. P. Jones, Hermanville, president; G. W. Ackerman, Port Gibson, secretary.

CLARKSDALE AND SIX COUNTIES MEDICAL SOCIETY. D. O. Pierce, Jonestown, president; N. C. Knight, Clarksdale, secretary. Meets fourth Wednesday of March and second Wednesday of November, Elks Club, Clarksdale, 2 p. m.

CLARK-WAYNE COUNTIES MEDICAL SOCIETIES: W. P. Gray, Waynesboro, president; Albert Hand, Shubuta, secretary.

COAHOMA COUNTY MEDICAL SOCIETY: W. S. Slaughter, Jonestown, president; N. C. Knight, Clarksdale, secretary. Meets second Wednesday each month, Clarksdale Hospital, 1:30 p. m.

DELTA MEDICAL SOCIETY: J. W. Lucas, Moorhead, president; F. M. Acree, Greenville, secretary. Meets second Wednesday of April and October, rotates through five counties. 2 p. m.

DESOTO COUNTY MEDICAL SOCIETY: A. J. Weissinger, Hernando, president; L. L. Minor, Route 4, Memphis, secretary. Meets first Monday of January, April, July, October, Hernando, 10 a. m.

EAST MISSISSIPPI MEDICAL SOCIETY: C. H. Gully, DeKalb, president; T. L. Bennett, Meridian, secretary. Next meeting, Meridian, March 5, 1936.

FRANKLIN COUNTY MEDICAL SOCIETY:

L. Costley, Meadville, secretary.

HANCOCK COUNTY MEDICAL SOCIETY:

A. P. Smith, Bay St. Louis, secretary.

HARRISON COUNTY MEDICAL SOCIETY:

H. K. Rouse, Lyman, secretary.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY: T. P. Sparks, Jr., Vicksburg, president; Leon S. Lippincott, Vicksburg, secretary. Meets second Tuesday each month, Elks Club, Vicksburg, 7:00 p. m.

JACKSON COUNTY MEDICAL SOCIETY: J. N. Lockhard, Pascagoula, president; R. G. Lander, Pascagoula, secretary. Meets second Thursday of March, June, September and December. Jackson County Hospital, Pascagoula, 7:00 p. m.

JEFFERSON COUNTY MEDICAL SOCIETY: W. T. Harper, Fave'le, secretary.

NEWTON COUNTY MEDICAL SOCIETY: W. T. Pennington, Decatur, president; Dudley Stennie, Newton, secretary.

NORTH MISSISSIPPI MEDICAL SOCIETY: R. G. Grant, Holly Springs, president; A. H. Little, Oxford, secretary. Next meeting New Albany, January.

NORTHEAST MISSISSIPPI 13 COUNTIES MEDICAL SOCIETY: S. R. Deanes, West Point, president; A. J. Stacy, Tupelo, secretary. Next meeting Starkville, March.

PIKE COUNTY MEDICAL SOCIETY: J. L. Bauer, McComb, president; Elise Rutledge, McComb, secretary. Meets first Thursday each month, McComb, 6:30 p. m.

PONTOTOC COUNTY MEDICAL SOCIETY: L. C. Carruth, Tupelo, R. F. D., president; G. F. Carr, Pontotoc, secretary.

SOUTH MISSISSIPPI MEDICAL SOCIETY: J. Gould Gardner, Columbia, president; F. T. Bower, Hattiesburg, secretary.

STONE COUNTY MEDICAL SOCIETY: Earl W. Green, Wiggins, secretary. Meets with Harrison-Stone-Hancock Counties Medical Society.

TATE COUNTY MEDICAL SOCIETY: W. D. Smith, Senatobia, president; J. Sidney Eason, Coldwater, secretary. Meets second Wednesday each month, Senatobia.

TRI-COUNTY MEDICAL SOCIETY: H. R. Fairfax, Brooklyn, president; R. B. Zeller, Hazlehurst, secretary. Meets second Tuesday of March, Copiah-Lincoln Junior College, Wesson; June, Walthal Hotel, Tylertown; September, Riverside Hotel, Monticello; December, Whitworth College, Brookhaven, 12:30 p. m.

WILKINSON COUNTY MEDICAL SOCIETY: E. M. Butler, Centreville, secretary.

WINONA DISTRICT MEDICAL SOCIETY: P. B. Brumby, Lexington, secretary.

month, 7:30 p. m.

CLARKSDALE HOSPITAL: Second Wednesday, each month, 1:30 p. m.

GEORGE C. HIXON MEMORIAL HOSPITAL: First Monday, each month.

GREENWOOD LEFLORE HOSPITAL: Second Monday, each month, 8 p. m.

HOUSTON HOSPITAL: Last Thursday, each month, 7:30 p. m.

JACKSON COUNTY HOSPITAL: Second Thursday, each month except July and August, 7:00 p. m.

JACKSON INFIRMARY: Last Tuesday, each month, 6 p. m.

MERIDIAN SAINTARIUM: Second Thursday, each month, 6:30 p. m.

MISSISSIPPI BAPTIST HOSPITAL: Third Tuesday, each month, 6:30 p. m.

NATCHEZ SANATORIUM: Second Tuesday each month, 7:30 p. m.

NORTHEAST MISSISSIPPI HOSPITAL: First Monday, each month, 7:30 p. m.

RUSH'S INFIRMARY: Second Thursday, each month, 7:00 p. m.

SOUTH MISSISSIPPI INFIRMARY: Last Thursday, each month, 5:00 p. m.

U. S. VETERANS HOSPITAL, GULFPORT: Every Monday, Tuesday, Wednesday and Thursday, 10:45 a. m.

VICKSBURG INFIRMARY: First Wednesday, each month, 7:00 p. m.

VICKSBURG SANITARIUM: Tenth, or week of tenth, each month 6:30 p. m.

WINONA INFIRMARY: First Thursday, each month, 7:30 p. m.

ANNUAL ORATION

I want to again call attention to our coming annual meeting next May 5-7, when we will have Dr. Morris Fishbein with us for the Annual Oration.

Those who have seen and heard Dr. Fishbein or listened to his radio debate in November do not have to be reminded that he is the outstanding medical orator in America. He can talk faster and say more and say it better than any other man I know, and when he is through there is nothing more to be said.

Those who cannot attend the whole meeting next May will be amply repaid for driving two hundred miles to hear Dr. Fishbein although he may have to drive home that night.

Truly yours,

T. M. DYE, Secretary

Clarksdale, Dec. 12, 1935.

NEW LICENSES

At a meeting of the State Board of Health on December 5, the following physicians were licensed to practice medicine in Mississippi:

MISSISSIPPI HOSPITALS—CALENDAR OF STAFF MEETINGS

ANDERSON INFIRMARY: Second Friday, each month, 6:00 p. m.

BILOXI HOSPITAL: First Friday, each

Dr. John Canada Powell, Coldwater, by reciprocity with Louisiana.

Dr. Maxwell D. Berman, Jackson, by reciprocity with Tennessee.

Dr. Lawrence Lincoln Beall, Cleveland, by reciprocity with Kentucky.

Dr. William R. K. Beck, Jackson, by reciprocity with Alabama.

Dr. Henry D. Steele, Biloxi, by reciprocity with Illinois.

DEATHS OF MISSISSIPPI PHYSICIANS

Dr. A. McCallum Gulfport, November.

Dr. J. W. Gray, Clarksdale, November.

MISSISSIPPI STATE BOARD OF HEALTH

A new list of Mississippi physicians is now being compiled. It will be ready about January 15. If you wish a copy of this list, write for it.

On December 11, Dr. Felix J. Underwood will address the Illinois Health Officers' Conference in Springfield. His subject will be, "Trends in Public Health Administration."

Recent visitors to the State Board of Health were Mr. D. E. Wright from the health department in Athens, Greece, and Dr. W. K. Sharp, representative of the U. S. Public Health Service.

Dr. Felix J. Underwood was elected president of the State Social Workers' Conference at its recent meeting in Jackson.

The Mississippi medical profession was greatly honored during December by having the president of the American Medical Association, Dr. James S. McLester, of Birmingham, address two medical society meetings.

Public health workers in Mississippi practice what they preach. On Dec. 15, every health worker had had a thorough physical examination by his family physician, a dental examination including X-ray and all corrections made by his dentist, typhoid vaccine, and chest X-ray. In this way the health workers are protecting themselves and educating others by example as to the value of periodic health examinations and discovering conditions early.

Miss Helen M. Smith, field clerk with the Massachusetts State Board of Health will spend several days beginning Dec. 13 with the Pike County Health Department, McComb. The Mississippi State Board of Health field clerk, Miss Jessie Lynn Ruff, will be with Miss Smith for some of the time she is in Pike County observing and studying the record system. The records used in the Pike County Health Department are considered among the best in the Country.

A series of Regional Conferences for public health workers, especially nurses, was held

during December at the Following centers:

Aberdeen, December 2

Greenwood, December 6

Hattiesburg, December 10

Jackson, December 12.

The speakers at each conference were: Dr. Horton Sasparis, Professor of Pediatrics, Vanderbilt; Dr. John A. Milne, Supervisor of the State Board of Health Field Unit, and Dr. A. L. Gray, in charge of the Epidoniological Unit.

The State Board of Health has a supply of booklets on the subject of Communicable Disease Control. Each disease is taken up separately and facts concerning symptoms, where and when most prevalent, etiology, incubation period, and the like are given. Any physician in Mississippi wishing a copy may secure one by writing Dr. H. C. Ricks State Board of Health, Jackson.

At a recent meeting of the Southern Branch of the American Public Health Association in conjunction with the Southern Medical Association, Dr. Underwood gave a paper on the subject **Relationship Between State and County Health Departments.**

FELIX J. UNDERWOOD,

State Health Officer.

Jackson, Dec. 3, 1935.

ACKNOWLEDGMENT

Acknowledgment is made of the receipt of the following reprints:

The Prevention of Postoperative Embolism and Phlebitis, by H. A. Gamble, M.D.

Emphysematous Gangrene of the Abdominal Wall, by H. A. Gamble, M. D.

Prophylactic External Version, by John Lucas, M.D.

The Radiologist in Court, by J. A. Beals, M.D.

CENTRAL MEDICAL SOCIETY

The annual meeting and banquet of the Central Medical Society was held at the Robert E. Lee Hotel, Jackson, Dec. 5, beginning at 5 p. m. There was a social hour preceding the banquet. Dr. John Darrington, Yazoo City, served as toastmaster and a number of talks were made by prominent guests, chief among them being Dr. James S. McLester, Birmingham, president of the American Medical Association.

The scientific session, presided over by Dr. W. B. Dobson, Jackson, president, provided the following:

Hydronephrosis Due to Aberrant Vessels, With Report of Cases.—Dr. Paul G. Gamble, Greenville.

Injuries About the Elbow.—Dr. J. Gould Gardner, Columbia.

Borderline States of Nutritive Failure.—Dr. James S. McLester, Birmingham, Alabama.

Officers for the coming year were elected.

Much credit is due to Dr. L. W. Long and the committees in charge for an outstanding meeting.

CLARKSDALE AND SIX COUNTIES MEDICAL SOCIETY

The 67th semiannual session of the Clarksdale and Six Counties Medical Society was called to order in the American Legion Hut Nichols, Nov. 13, 2 p. m.

The president ordered the minutes of the previous meeting read by the secretary, which were approved as read. The next order of business was the election of officers for 1936, which resulted as follows:

President, D. O. Pierce, Jonestown.

Vice Presidents:

Bolivar County, J. L. Brookshire, Hushpuckena.

Coahoma County, I. P. Carr, Clarksdale.

Tunica County, H. G. Johnson, Dundee.

Quitman County, Fred Stone, Sledge.

Tallahatchie, J. A. Harris, Webb.

Secretary-Treasurer, N. C. Knight, Clarksdale.

Board of Censors (one member), W. S. Slaughter, Jonestown.

Member Medico-Legal Defense Committee, T. M. Dye, Clarksdale.

New business being next in order a letter from the Central Medical Society was presented by the secretary which called for representatives from this Society to be present at the annual meeting of the Central Medical Society in Jackson, Dec. 5, and Drs. T. M. Dye and N. C. Knight were elected as these representatives. An application by Dr. C. F. Freeland, Glendora, for membership was then acted upon favorably.

Under the heading of old business, Dr. L. B. Austin, chairman of the committee appointed at the March meeting to investigate the medical insurance plan had been proposed by the Delta Medical Society for the Mississippi Delta, reported that his committee had met with that of the Delta Medical Society and after discussing the plan several times had decided to drop it temporarily. Dr. T. M. Dye then made a motion, which was seconded and carried, that Dr. Austin's report be accepted and the committee discharged. The secretary's annual financial report was then reported and was accepted and approved as read.

The scientific session being next in order, same was immediately taken up as follows:

Appendicitis in Children—Dr. Eugene Rosamond, Memphis. Discussed by Drs. Wilkins, Crisler, Austin and Rhyne; closed by Dr. Rosamond.

Hypertension—Dr. S. D. Robinson, Clarksdale.

Dental Cripples—Dr. Felix J. Underwood,

Jackson. Discussed by Dr. Austin; closed by Dr. Underwood.

The Pathology of Syphilis—Dr. L. B. Austin, Roseale. Discussed by Dr. Pyle; closed by Dr. Austin.

The Society was then recessed until 7 p. m. when it met in the banquet room of the Alcazar Hotel. Preceding the banquet Senator Pat Harrison made a short talk. During the banquet the following program of entertainment was rendered:

Song—Laura Serio—Accompanied by Ruth Bush.

S'rut—Georgia Gilliland, Babe Ham and June Artman. Accompanied by Ruth Bush.

Song and Dance—Elizabeth Anne Brock. Accompanied by Ruth Bush.

Toe Dance—Mary Lucille Birdsong. Accompanied by Ruth Bush.

Song and Dance—Celia Irvin. Accompanied by Mrs. Fant.

Song and Dance—Celia Irvin. Accompanied by Mrs. Fant.

The scientific session was then resumed as follows:

Peeping Around the Corner in Medicine and Surgery—Dr. John Darrington, Yazoo City. Discussed by Drs. Austin, Robinson and Holder; closed by Dr. Darrington.

Dr. J. L. Nichols then gave his President's Address for the year and following same Dr. T. M. Dye gave the Society a short address on Dr. J. W. Gray who died recently.

Agranulocytosis (Stereopticon illustrations).—Dr. H. G. Rudner, Memphis. Discussed by Drs. Shea, Austin and Slaughter; closed by Dr. Rudner.

The president then appointed Drs. T. M. Dye, A. G. Everett, and E. LeRoy Wilkins as a committee of three to draw up resolutions in behalf of the Society relative to the death of Dr. J. W. Gray and send a copy of same to Dr. Gray's family, the local newspapers, and The Mississippi Doctor.

Following this appointment Dr. John Darrington, Yazoo City, Dr. J. A. Crisler, Sr., and Dr. E. M. Holder, Memphis, were elected to honorary membership in the Society.

There being no further business the Society adjourned.

N. C. KNIGHT, Secretary.
Clarksdale, Dec. 4, 1935.

COAHOMA COUNTY MEDICAL SOCIETY

The Coahoma County Medical Society and the Clarksdale Hospital Medical Staff met in regular monthly meeting Dec. 11, at the Clarksdale Hospital, 1:30 p. m. The meeting was called to order by the president, Dr. W. S. Slaughter, who then ordered the roll called and the reading of the minutes of the previous meeting. Minutes adopted as read.

Dr. Wm. P. Warfield was then nominated for membership in the Society and as a member of the Clarksdale Hospital Medical Staff and was unanimously elected. The election of officers for the next term being the next order of business, same was postponed until the January meeting on motion of E. LeRoy Wilkins which was seconded and carried. Methods of increasing the membership of the Society and increasing attendance was then discussed by all members present.

The scientific program being next in order same was as follows:

"Recent Things I Have Read on E. E. N. T."—E. LeRoy Wilkins, Clarksdale. Discussed by I. W. Barrett, D. O. Pierce, W. S. Slaughter and N. C. Knight.

"Some Cytologic Changes in Allergy"—I. W. Barrett, Clarksdale. Discussed by E. LeRoy Wilkins and T. M. Dye.

There being no further business the Society adjourned to meet again the second Wednesday in January.

N. C. KNIGHT, Secretary.
Clarksdale, Dec. 14, 1935.

EAST MISSISSIPPI MEDICAL SOCIETY

The annual meeting of East Mississippi Medical Society was held in the Lamar Hotel, Meridian, Thursday, Dec. 5. Approximately 100 physicians and guests were in attendance. Dr. H. L. Arnold, retiring president presided over the meeting.

At the afternoon business session Dr. C. H. Gully of DeKalb, Kemper County, was elected president by a unanimous vote, his term of office being for the coming year, 1936. The office of treasurer was abolished, the duties of same becoming that of the secretary. (Vice-presidents, delegates to the state association, editors to the "Mississippi Doctor", and censors are to be elected by the component counties respectively at their local meetings).

The question came up as to how often meetings should be held the coming year and after some discussion a motion was made by Dr. Z. C. Hagan that we meet quarterly and amended by Dr. J. S. Hickman so that three meetings would be at Meridian and one at Philadelphia. This motion was carried without a dissenting vote.

A motion introduced by Dr. J. S. Hickman that it become a duty of the county vice-presidents to aid the secretary in the collection of dues from their counties respectively, was carried.

On motion by Dr. H. S. Gully, the society voted to send a message of sympathy and wishes for a speedy recovery to Dr. William Krauss, in ill health at Memphis.

A suggestion was made by Dr. L. V. Rush that the secretary be paid a salary. A motion was then made by Dr. W. A. McMahan that

the constitution be amended so that the secretary be paid twenty-five dollars yearly as a salary. This motion is to be voted on at the next regular meeting.

The members expressed by a large majority vote, their preference for meetings in Meridian to be held during the afternoon and night rather than morning and afternoon.

The scientific program was as follows:

Low Forceps Delivery; Moving Pictures. Courtesy of Davis and Geck, Inc., Shown by Dr. Leslie V. Rush.

Address—Dr. J. R. Hill, Corinth, President of the Mississippi State Medical Association.

The Ambulant Psychiatric Case—Dr. Beverly Smith, Meridian. Discussion by Drs. O. Simmons and R. R. Welch.

A Resume of the Status of Immunization—Dr. Harvey F. Garrison, Jackson, President-Elect of the Mississippi State Medical Association. Discussion by Drs. F. G. Riley, G. L. Arrington, H. L. Rush and K. T. Kilpatrick.

Luncheon—Courtesy of Meridian Physicians.

Address—Dr. James S. McLester, President of the American Medical Association, Birmingham.

Diagnosis and Treatment of Some of the Common Skin Diseases—Dr. Clinton W. Lane, St. Louis.

Skin Clinic—Dr. Lane. Cases assembled by Drs. R. M. Leigh and K. O. Stingily.

Next meeting will probably be held in Meridian. March 5.

T. L. BENNETT, Secretary.
Meridian, Dec. 11, 1935.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

The annual meeting of the Issaquena-Sharkey-Warren Counties Medical Society was held Tuesday, December 10. The program included open house, throughout the afternoon, a banquet with a reunion of past presidents of the Mississippi State Medical Association and a scientific session at night. Dr. F. Michael Smith, president, presided and welcomed the guests.

Dr. Sydney W. Johnston presented the past presidents present as follows: Drs. H. H. Har- alson, W. W. Crawford, D. W. Jones, D. J. Williams, T. M. Dye, Willis Walley, J. W. Barksdale, W. A. Dearman, John Darrington, W. H. Frizell, J. C. Culley, J. M. Acker, Jr., and E. C. Parker. Several of the past presidents made short talks.

Special official guests of the Society included Dr. J. R. Hill, president, Dr. Harvey F. Garrison, president-elect, E. LeRoy Wilkins, treasurer, W. H. Watson, councilor, J. B. Howell members of committee on budget and finance, all officers of the Mississippi State Medical Association. Dr. Hill and Dr. Garrison both made addresses on the importance of organized med-

icine and its support by all reputable doctors.

The scientific program included the following:

1. Gas Gangrene—Dr. Battle Malone, Memphis, Tenn.; introduced by Dr. A. Street.

2. Some Aspects of the Pellagra Problem, Dr. Virgil P. Sydenstricker, Augusta, Ga.; introduced by Dr. Leon S. Lippincott.

3. Consideration and Management of the More Common Types of Diarrhea and Constipation—Dr. Philip W. Brown, Rochester, Minn.; introduced by Dr. W. K. Purks.

The Woman's Auxiliary guests present at the banquet were Mrs. Leon S. Lippincott, Vicksburg, president; Mrs. D. J. Williams, Gulfport, Mrs. S. W. Johnston, Vicksburg, Mrs. M. H. Bell, Vicksburg, Mrs. Harvey F. Garrison, Jackson; and Mrs. W. C. Pool, Cary, past presidents; Mrs. H. H. Johnston, press and publicity chairman; and Mrs. J. B. Howell, councilor, all of the Woman's Auxiliary to the Mississippi State Medical Association; Mrs. L. J. Clark, Vicksburg, president, Woman's Auxiliary to the Issaquena-Sharkey-Warren Counties Medical Society; Mrs. W. F. Henderson, Jackson; Mrs. F. M. Smith, Vicksburg; Mrs. Philip W. Brown, Rochester, Minn.; Miss Grace Golden, Vicksburg.

Officers of the Society for the year of 1936 were elected as follows:

President, Dr. Thomas P. Sparks, Jr., Vicksburg.

Vice-President from Issaquena County, Dr. T. W. Huey, Grace.

Vice-President from Sharkey County, Dr. H. S. Goodman, Rolling Fork.

Vice President from Warren County, Dr. G. C. Jarrett, Vicksburg.

Secretary-Treasurer, Dr. Leon S. Lippincott, Vicksburg.

Member of the Board of Censors, Dr. W. C. Pool, Cary.

Member of the Committee on Medical Defense, Dr. F. Michael Smith, Vicksburg.

A number of telegrams and letters of greetings were received from officers of the Mississippi State Medical Association and of the Louisiana State Medical Society who were unable to attend the meeting.

Dr. G. S. Bryan, Amory, sent the following:

"Amory, Miss.

"December 6th, 1935

"Doctor Friends:

"I regret deeply that I am not with you today. I had wished and planned to be one of your number. The mind was willing—yes, anxious, but the body is handicapped by certain defects. However, I shall be thinking of you collectively and individually throughout the time given to your program. I wonder if I might care to hope that you might take time out for one brief moment of remembrance of me?

"I trust that every moment of the day will be brim full of pleasure and profit to each of you and that the approaching year will bring joy and happiness into your lives that have been so largely given in service to others.

"Meet me in Tupelo on the 17th of December.

"Yours with friendship and affection.

"G. S. BRYAN."

Best wishes for an early and complete recovery were expressed.

The next meeting of the society will be held Tuesday, January 14th at the Elks Club, Vicksburg.

LEON S. LIPPINCOTT, Secretary

NEWTON COUNTY MEDICAL SOCIETY

Greetings to our new Journal and every good wish for a successful year for all.

At the regular meeting of the Newton County Medical Society held in Decatur, Dec. 4, the following officers were elected for the coming year: Dr. W. J. Pennington, Decatur, president; Dr. Z. C. Hagen, Union, vice-president; Dr. Dudley Stennis, Newton, secretary and treasurer; Dr. O. Simmons, Newton, delegate to the State Medical Association, Dr. McMahan, Union, alternate. Drs. V. L. Henton, Decatur and B. C. Edwards, Union, were elected members of the society.

DUDLEY STENNIS, Secretary.

Newton, Dec. 9, 1935.

NORTHEAST MISSISSIPPI THIRTEEN COUNTIES MEDICAL SOCIETY

Following the scientific program each doctor and his wife was invited to attend the banquet being given by Thomas-Kincannon-Elkin Drug Co., Tupelo, one of Northeast Mississippi's oldest drug firms.

A. J. STACY, Secretary

S. R. DEANES, President

PROGRAM

Meeting Called to Order, Pres. S. R. Deanes. Invocation, Dr. H. F. Brooks, Pastor, First Methodist Church.

Reading and Adoption of Minutes Last Meeting.

"The Treatment of Peripheral Vascular Disease by Means of Alternating Positive and Negative Pressure," Dr. Jim Green, Tupelo. Open discussion.

"What the General Practitioner Should Know About Indication for Surgery in Tuberculosis," Dr. I. P. Burdine, Amory. Open discussion.

"How the General Practitioner Can Co-operate with the Urologist in the Treatment of the Surgical Kidney," Dr. George R. Livermore, Memphis. Open discussion.

"Dental Cripples," Dr. Felix J. Underwood, State Health Officer, Jackson, Miss. Open dis-

cussion.
Election of Officers—General Business.
Tupelo, Dec. 13, 1935.

PONTOTOC COUNTY MEDICAL SOCIETY

The Pontotoc County Medical Society met in Pontotoc Dec. 3 with a good attendance. After the business session election of officers for the ensuing year resulted in Dr. L. O. Carruth, Tupelo, R. F. D., being president; Dr. C. W. Patterson, Houlka R. 3. vice-president; Dr. O. F. Carr, Pontotoc, secretary and treasurer; Dr. O. F. Carr and R. P. Donaldson, program committee.

The guest speaker for the day was Dr. Ira B. Seale, Holly Springs. His subject was "Some of the Problems in the Care and Feeding of Infants." This was a very interesting paper indeed and was characteristic of Dr. Seale. He never does things by halves

R. P. DONALDSON

Pontotoc, Dec. 7, 1935.

**TRI-COUNTY MEDICAL SOCIETY
BROOKHAVEN, MISS.
WHITWORTH COLLEGE**

December 10, 1935

PROGRAM

Dinner 12:30.

Election of Officers.

Eyes and Automobiles, H. R. Fairfax, M.D., Brookhaven, President Tri-County Medical Society.

A Resume of the Status of Immunization—Harvey F. Garrison M.D., Jackson, President-elect, Mississippi State Medical Association.

Practical Use of Endocrines—H. W. Kostmayer, M.D., New Orleans, La., Dean, Tulane Graduate School of Medicine; President-Elect Louisiana State Medical Society.

The Mississippi State Medical Association—J. R. Hill, M.D., Corinth, President, Mississippi State Medical Association.

Each member was urged to bring his wife to this annual dinner.

R. B. ZELLER, Secretary

Hazlehurst, Dec. 4, 1935.

WILKINSON COUNTY MEDICAL SOCIETY

The Wilkinson County Medical Society held its regular meeting in Centreville Nov. 14, with all doctors of Wilkinson County enrolled and present. Preceding the business meeting, the society assembled in joint meeting with the Amite County Medical Society. It is our aim to continue, at each meeting, to allot part of the time to a joint meeting with the Amite County Medical Society in order that our meeting with the Amite County Medical Society in order that our meetings might be more in-

teresting and instructive than would be possible if we limited them entirely to the very small number of our enrolled members.

EDWIN M. BUTLER, Secretary.

Centreville, Dec. 9, 1935.

ADAMS COUNTY

Greetings and Salutations to our new official Mississippi State Medical Journal—**The Mississippi Doctor**. Best wishes to its editors and co-workers. We hesitate to break from our old and loyal friend the New Orleans Medical and Surgical Journal, but we must all abide by the decisions of the powers that be.

They have stood side by side with us in times of prosperity and adversity and we surely hate to part with them. May both journals in their adventures for 1936, become better and broader messengers to the medical fraternity of our sister states.

May a Happy Christmas and Prosperous New Year and God's choicest blessings fall upon all of us for the bright year of 1936.

LUCIEN S. GAUDET, County Editor

Natchez, Dec. 9, 1935.

Dr. Gaudet's secretary reports that he has been out of his office for the last week with an infected knee. Our sincere regrets and every good wish for an early and complete recovery.—Ed.

CHICKASAW COUNTY

Dr. S. K. Gore, Mantee, Dr. J. M. Hocd, Houlka, and Dr. and Mrs. V. B. Philpot, Houston, attended the recent meeting of the Southern Medical Association in St. Louis.

Dr. T. W. Paden of Van Vleet has been indisposed of late, having been confined to his home for more than a week.

At the concluding lecture of the post graduate course in obstetrics, recently completed at Houston, resolutions were passed commending the course and the lecturer, Dr. Maxwell E. Lapham. The doctors of this section are indeed indebted to the State Medical Association and others for making this splendid series of lectures available. The course was well attended by physicians from a wide radius.

DOUGLAS D. BAUGH, County Editor

Houston, Dec. 9, 1935.

COAHOMA COUNTY

Dr. J. A. Slack, Friars Point, was a visitor to Forrest City, Ark., during the month where he had a very pleasant visit.

Dr. A. G. Everett and wife, Friars Point, were recent visitors to Brownsville, Tenn.

Drs. T. M. Dye and D. H. Raney attended the Annual Convention of Railway Surgeons in Chicago during the month. They report a

pleasant and a profitable trip.

Drs. I. W. Barrett and N. C. Knight attended the meeting of the Southern Medical Association in St. Louis, and a very pleasant and profitable trip is reported. From St. Louis Dr. Barrett visited Detroit, Chicago, and other points in the north and either begged, borrowed, stole, or bought a very classy large automobile which he brought back to Clarksdale with him.

Dr. William P. Warfield has recently moved from Tunica to Clarksdale where he is associated with Dr. W. H. Brandon in the clinic.

Drs. C. D. Kirby, W. H. Brandon, N. Yeates, and I. W. Barrett were visitors to Memphis several times during the month.

A large number of Coahoma County physicians attended the Ole Miss-State football game in Oxford, Nov. 30, among them being C. D. Kirby, J. A. Slack, N. C. Knight and others.

The construction of Dr. I. W. Barrett's new clinic building is progressing nicely and it looks like it is going to be a fine one. Dr. Barrett plans to occupy the building about Jan. 1, where he will continue the practice of his specialty.

N. C. KNIGHT, County Editor
Clarksdale, Dec. 4, 1935.

DESOTO COUNTY

This will be the first news item from this county to the MISSISSIPPI DOCTOR, our new official Journal. Dr. W. H. Anderson, the efficient editor assisted by his accomplished wife, will no doubt give us a journal that will fill our every medical need. We wish the MISSISSIPPI DOCTOR a most successful year.

We are, of course, gratified that Dr. Leon S. Lippincott will continue to be the editor for the Mississippi State Medical Association. In passing it will be just to say that **The New Orleans Medical and Surgical Journal**, our official organ for some ten years, served us well and satisfactorily.

There is no news of particular interest in reference to our doctors and their families. All are well and faithfully carrying on.

The post graduate obstetric class, composed of the doctors of Desoto, Tate and Tunica Counties, will assemble in Senatobia Monday, Jan. 6, 7 p. m. The class instructor will be Dr. Maxwell E. Lapham. These lectures are instructive and will be of material aid to the physicians in their work; I trust that many will take advantage of this fine opportunity.

The 52nd Annual Convention of the Mid-South Post Graduate Medical Assembly will convene in Memphis, Feb. 11, 12, 13; 14. A superb program has been prepared and the attendance will be large. Make preparations

to attend.

L. L. MINOR, County Editor
Route 4, Memphis, Tenn. Dec. 8, 1935.

LAFAYETTE COUNTY

Dr. Maxwell E. Lapham of Philadelphia, Pa., is conducting a postgraduate course in obstetrics at Oxford, for the physicians of Yalobusha and Lafayette counties. The meetings are being held in the lecture room on the first floor of the old Medical Building at the University. The course started Dec. 2 and will continue through Dec. 13. The meetings are being well attended; students of the School of Medicine have been invited to attend, and they are regularly present.

Dr. H. J. Gondolf, of the faculty of the School of Medicine of the University, made a short visit to New Orleans the first part of December.

Dr. B. S. Guyton, acting dean of the School of Medicine, and Chancellor A. B. Butts of the University of Mississippi were present in Chicago at the December meeting of the Council on Medical Education and Hospitals of the American Medical Association.

Students in the School of Medicine of the University of Mississippi will leave to go home for the Christmas holidays Dec. 19.

To all the physicians of the state we extend hearty New Year Greetings.

J. R. SIMMS, JR., County Editor
University, Dec. 9, 1935.

LEFLORE COUNTY

Dr. George Baskervill, Greenwood, visited relatives in Alexandria, La., Nov. 3rd and 4th, and also attended the wedding of his niece in Warrenton, N. C., Nov. 28.

Dr. S. G. Mounger, Vicksburg, visited in his mother's home here early in November.

Dr. and Mrs. E. W. Hunter, Greenwood, are happy over the arrival of their grand-daughter, Mary Barnwell, born to Mr. and Mrs. Frank H. Barnwell, Thornton, at the Greenwood Leflore Hospital, Nov. 5.

Mrs. Frances Gray Wood and son, G. H. Wood, III, wife and son of Dr. G. H. Wood, Jr., Big Springs, Texas, arrived in Greenwood Nov. 11 to visit Mrs. Wood's parents, Mr. and Mrs. Harris Gray.

Dr. S. L. Brister, Greenwood, attended the National Fox Hunt, Jackson, Tenn., Nov. 14.

Dr. Edgar Giles, Avalon, attended the American Association of Railway Surgeons in Chicago, Ill., Nov. 12 to 15.

Dr. J. McAnerny, Memphis, is now located at Sunny Side to look after the practice of Dr. W. M. Duke, who has been sick and unable to attend his practice for over a month. We wish for him a speedy recovery and extend a welcome to Dr. McAnerny to Leflore County.

Drs. H. A. Gamble and Green of Gamble

Bros. and Montgomery Clinic, Greenville, passed through Greenwood Sunday, Nov. 24 on their way to Guntown and Tupelo.

Dr. H. T. Ashford, Clinton, visited his sister, Mrs. R. E. Denman, Greenwood, Nov. 26.

Dr. and Mrs. R. D. Dickins, Monticello, Ark., spent Thanksgiving day in Greenwood in the home of Dr. and Mrs. W. B. Dickins.

Mr. and Mrs. J. R. Williams, Itta Bena, announce the arrival of a daughter, born at the Greenwood Leflore Hospital, Greenwood, Nov. 29. The young lady is a grand-daughter of Dr. and Mrs. L. H. Hightower, Itta Bena.

Dr. and Mrs. C. D. Alexander, Vaiden, visited Greenwood, Dec. 2, to welcome their grand-daughter, Ruth Dent Townes, born to Mr. and Mrs. J. A. Townes, Minter City, at the Greenwood Leflore Hospital. Dr. Alexander was recently honored by being appointed colonel on Governor White's staff.

Dr. T. B. Holloman, Itta Bena, has gone to Ocala, Fla., to visit his daughter, Mrs. W. W. Boone, whose husband is employed as an engineer on the big canal.

Work will soon be started on the \$40,000 annex to the Greenwood Leflore Hospital.

We send New Years Greetings to **The Mississippi Doctor**, our Journal.

W. B. DICKINS, County Editor
Greenwood, Dec., 1935.

LINCOLN COUNTY

Drs. O. N. Arrington and H. R. Fairfax, Brookhaven, attended the meeting of the Southern Medical Association in St. Louis, Nov. 18-22.

H. R. FAIRFAX
Brookhaven, Dec. 3, 1935.

NEWTON COUNTY

Drs. W. E. Box, T. E. Jarvis, O. Simmons and Dudley Stennis attended the meeting of the East Mississippi Medical Society in Meridian.

Dr. W. E. Box continues ill at his home.

Dr. B. C. Edwards is located at Union, and will engage in general practice.

Dr. and Mrs. Dudley Stennis had with them for the Thanksgiving holidays their daughters, Misses Martha of Anguilla, Elizabeth of Silver City, and Mildred of M. S. C. W.

Mrs. O. Simmons visited her sisters in Memphis last week.

Dr. Dudley Stennis was called to the bedside of his aunt, Mrs. H. H. Stennis in DeKalb.

With kindest regards and best wishes,

DUDLEY STENNIS, County Editor
Newton, Dec. 9, 1935.

PEARL RIVER COUNTY

There is little of interest right at this time. The writer has been very busy for the past several months and has not been able to con-

tribute to the journal as he wished to do. During this time we have had a change or two in the medical personnel of our county. Dr. W. W. Hickman left, as I understand, to return to Winston County. Dr. J. Howard Kellis has taken his place and is now located at Picayune.

At intervals, for the past two years, we have had a so-called "Cancer Doctor" who, altho not a licensed physician, has been treating patients in this section. Efforts were made to bring him into court on a charge of practicing without a license. He had always managed to evade these efforts until right recently when he was arrested and placed under bond to appear in court. When time for the trial arrived he failed to appear. This first charge being a misdemeanor, he was tried in his absence, convicted, and fined \$100.00 and costs. That left the responsibility on his bondsmen to bring him in or forfeit his bond, I am of the opinion that he will appear, pay his fine, and leave this section. He most likely was advised by his attorney to take this action in order to avoid being arrested on a second offense charge that we had against him, a charge which is a more serious matter in that it is a felony. I feel sure that we will have no more trouble with him here.

The South Mississippi Medical Society will hold its regular quarterly meeting at Hattiesburg, Dec. 12. We are anticipating a good program and the pleasure of the fellowship that always obtains at these meetings. We only regret that we will not have the pleasure of having Dr. T. E. Ross, Sr., with us. He was a loyal member, true to his profession highly esteemed, honored and venerated by all who knew him. His presence will be sorely missed. We always have a good attendance at our meetings, but I am sure that there would be a closer bond of friendship and fellowship between the members of our profession if our attendance could be nearer 100 per cent. Fellows, we need that closer bond of friendship and fellowship at present more than ever before. I hope that every member of organized medicine will make a small sacrifice and attend medical meetings more regularly. Let everyone of us pay our dues and line up actively with organized medicine in the interest of our profession and its future outlook.

G. E. GODMAN, County Editor
Poplarville, Dec. 4, 1935.

PONTOTOC COUNTY

The postgraduate course in obstetrics given by Dr. Maxwell E. Lapham of Philadelphia, Pa., closed here Nov. 29. His lectures were well attended and everyone seemed to enjoy them. We feel that he has given us something worth while.

The staff meeting at Houston the night of Dec. 5 was a success in every way. The entertainment program was dedicated to Dr. Morgan of Okolona, which consisted of several musical numbers under the leadership of Dr. Hansell, the Darnell Bros., with Mrs. Morgan at the piano. We regret very much that Dr. Morgan was indisposed and was not able to attend. Here's hoping that Dr. Morgan will soon be able to resume his work. The guest speaker for the night was Dr. Archer of Greenville. His paper was on undulant fever. This paper was well prepared and showed that Dr. Archer had devoted quite a bit of time and study to the subject.

R. P. DONALDSON, County Editor
Pontotoc, Dec. 7, 1935.

SUNFLOWER COUNTY

It was necessary that Dr. B. J. Green, Drew, be absent from his office a good part of last month because of the illness of his wife. Dr. Green was also ill for several days during the month.

Dr. W. H. Weeks, Doddsville, reports a very profitable and enjoyable visit to St. Louis during the Southern Medical Association convention.

We are grieved to learn that Dr. J. A. Alexander was called to Vicksburg because of the death of his sister, Mrs. W. R. Lacy. Mrs. Lacy had been for many years a resident of Bolton.

Mr. Albert Kimbriel of Mississippi College, spent Thanksgiving holidays with his parents, Dr. and Mrs. A. C. Kimbriel.

Dr. and Mrs. A. C. Kimbriel had as their guests for Thanksgiving Mr. and Mrs. R. P. Hawkins and daughters, Barbara and Mary Ann Hawkins of Fulton, and Miss Shirley DeBow of Clarksdale.

Dr. J. W. Lucas, incoming president of the Delta Medical Society is enthusiastically planning for a good year for the society.

H. B. COTTRELL, County Editor.
Indianola, Dec. 10, 1935.

WARREN COUNTY

It is said that the Emperor Galerius on one occasion watched his soldiers at target practice and to one who had repeatedly missed the mark he said, "Allow me to offer my congratulations on the truly admirable skill you have shown in keeping clear of the mark. Not to have hit once in so many trials argues the most splendid talents for missing."

Our congratulations to the "Mississippi Doctor" today is not upon repeated missing the high goal and worthy ambition of being the official organ of the Mississippi State Medical Association, but upon the repeated efforts and final success in achieving this laudable ambition. And in view of this honor and deserving

success that has now come to the journal through the unfaltering and untiring efforts of the editor and his co-workers of this now **our** journal, the "Mississippi Doctor," we bespeak that the editor, Doctor Anderson, will say of this privilege as Cato of old said, "Tis not in mortal to command success, but we'll do more, Sempronius, we'll **deserve** it."

Dr. I. C. Knox versus Dr. G. C. Jarratt was the reading of the fraternal score card in the game at Memphis, between Ole Miss and the Vols. Ike and Guy representing on this occasion our profession from the City of Vicksburg, and primarily representing modern football fans rooting for their respective schools. The obstetrician's final score card read a **stillbirth**, the pediatrician's baby or weakling resuscitated.

Dr. Edley H. Jones and wife attended the Southern Medical convening at St. Louis.

The honor guest or visitor to the Southern Medical from our fraternal ranks was Dr. Pierre Iobert, who prepared and read a paper on "Malaria in Children." This paper was presented in the section on pediatrics.

Dr. Laurance J. Clark performed an unusual service on his trip to St. Louis and the Southern Medical. He enrolled as a modern "Medico-Gigolo" and chaperoned a party composed of Mesdames Clark and Birchett, and Dr. J. A. K. Birchett, Sr. The excellency of his service was not brought into question until the ladies of the party noticed that he always preferred taking luncheon in those fashionable resorts where the entrance room walls were adorned with row after row of those once ancient bacchanalian urns that were filled with the glory and spirit of Bacchus and Dionysus.

Someone has supplemented Bacon's oft quoted words and made them to say, "Reading maketh a full man, conference a ready man, writing an exact man, and observation a positive man." Therefore, Dr. H. H. Johnston has endeavored to add to his fullness, readiness, and exactness, the other attribute of positiveness, by spending ten or more days in Johns Hopkins University, Baltimore, observing.

Dr. Charles M. Kent, chief physician and surgeon of the Kenedy Clinic and Hospital of Kenedy, Texas, accompanied by his good wife, was a most pleasant recent visitor in "ye editor's" home. Dr. Kent was born and reared in Montgomery County, Miss. The doctor and his wife early in December made a visit to Nashville, Tenn., to see their son who is in school there and on their return came by their old home in Kilmichael, subsequently to Vicksburg on their homeward way.

The American Urological Association held its annual meeting this year, during the first week in December in Nashville, Tenn. Dr. Thomas Spark of our city attended the meeting.

Drs. Leon S. Lippincott and F. Michael Smith were the representatives of the Issaquena-Sharkey-Warren Counties Medical Society at the Annual Meeting of the Central Medical Society convening Dec. 5, in Jackson. They report a most excellent meeting, exhilarating hospitality, and an endearing fraternal fellowship. However, the boys came back somewhat depressed, and it was not due entirely to the improper blending of the Jackson "Hot Shot" with the Vicksburg "Moonshine" but they were confused and confounded with the oft repeated assertion and the apparant universal belief prevailing there, that there existed in all the wide world only two Medical Societies, the Central Medical and a little Society somewhere way "Up North" that they call the A. M. A. Congratulations to Drs. Dotson, Long and the Jackson boys. You certainly put on an excellent program.

When this letter shall have come to your desk it will greet you from a New Journal for a New Year. The old year 1935, as with all yesteryears will rest in "the eternal landscape of the past" and will remain forever safe and great in that sacred environment and will visit us only a few years longer then in memories and dreams. The old year was good to us, some sorrows may have come, but in and through it all there were many pleasures and joys. In our fraternal family wedding bells on numerous occasions rang joyfully; the birth cry of the newborn repeatedly awakened in the heart of joyous motherhood the tenderest and noblest of aspirations, and thus far no physician of our honored profession has been called to meet his Pilot face to face to cross the bar.

We give thanks as "The irrevocable Hand that Opens the Year's fair gate, doth Ope and Shut the portals of our earthly destinies; we walk through blindfold, and the noiseless doors close after us, forever."

H. T. IMS, County Editor

Vicksburg, Dec. 10, 1935.

WASHINGTON COUNTY

The following very flattering account of Dr. H. A. Gamble's paper on "The Open Treatment of Peritonitis Secondary to Appendicitis," was taken from a St. Louis paper.

Mississippians Tell of New Surgical Plan. Greenville Doctor Reports to Society on Results.

St. Louis, Nov. 23. Leaving the surgical wound open until it healed was described today by Dr. H. A. Gamble of Greenville, Miss., as an effective treatment in preventing deaths from infection following operations for ruptured appendices.

Speaking at the closing session of the Southern Medical Association Dr. Gamble said of

141 cases, 59 of them serious, treated in that manner, only one death resulted, a mortality of seven-tenths of one per cent.

It was brought out in discussion that of 349 consecutive cases of acute appendicitis performed in a St. Louis hospital by the old method of closing the wound and draining it, 20 deaths resulted, a mortality rate of 5.76 per cent.

The "open" procedure, Dr. Gamble explained was to drain the cavity, pack the abdominal wound for 24 hours, then remove the packing and leave the wound open without dressing under a tent with a 40 candle power electric light bulb to heat it.

The surgeon said his theory was that air aided the peritoneum—the tissue lining the abdomen—in fighting off infection and that closing the incision provided those heat and moisture conditions favorable to the growth of anaerobic germs.

In the discussion, in which several surgeons commented on the treatment, Dr. Thomas A. Orr of Kansas City said, "the results are truly remarkable. If other surgeons can accomplish as much by open treatment, the problem of the treatment of acute diffuse peritonitis is about completely solved."

Mrs. John A. Beals, Greenville, has returned from St. Louis where she attended the annual meeting of the Woman's Auxiliary to the Southern Medical Association. Mrs. Beals gave the response to the address of welcome at the luncheon meeting of the auxiliary.

Mrs. Otis Beck, Greenville, of the Auxiliary to the Delta Medical Society, served as alternate delegate from Mississippi at the Southern Medical Auxiliary convention.

Those attending the Southern Medical Association in St. Louis from Greenville were, Dr. H. A. Gamble, Dr. R. E. Wilson, Dr. J. C. Pegues, Dr. and Mrs. Otis Beck, Dr. and Mrs. John Lucas and Mrs. John A. Beals.

Dr. and Mrs. Otis Beck and Dr. and Mrs. John Lucas of Greenville, who motored to St. Louis to the meeting of the Southern Medical Association, on their way home came by South Bend, Ind., where they attended the Notre Dame and Southern California football game.

The many friends of Dr. and Mrs. L. C. Davis, Greenville, regret to learn of the recent illness of their daughter Ada Lee. Mrs. L. C. Davis, Mrs. Lewis Davis and Ada Lee went to Johns Hopkins Hospital, Baltimore, for further consultation. On their way home they stopped by Washington for several days. It is hoped that little Miss Ada Lee will soon be well on the road to recovery.

Mr. and Mrs. Parker Wheatley and Miss Anne Gillespie were guests of Dr. and Mrs. L. C. Davis, Greenville, for Thanksgiving.

Dr. Otis Beck and Dr. L. C. Davis have been elected as two of the directors of the Green-

ville Baseball Association. Predictions are that Greenville will have a pennant winning team for 1936.

Mrs. Jack Klingman and Miss Virginia Klingman were recent guests of Dr. and Mrs. Otis Beck, Greenville.

Mr. Billy Keady has returned to the Washington University, St. Louis, after spending the Thanksgiving holidays with Mrs. Keady and Dr. and Mrs. C. P. Thompson, Greenville.

Dr. and Mrs. T. L. Dobson, Leland, have returned from Hot Springs, Ark., where they spent several days.

The home of Dr. and Mrs. M. L. Witte, Leland, was the scene of a most delightful tea given by Mrs. Witte and Miss Virginia Witte in honor of Miss Laverne Brown, a charming bride-elect.

Dr. J. A. Beals, Greenville, has returned from attending the meeting of the Radiological Society of North America held in Detroit this month.

Dr. P. G. Gamble and Dr. R. E. Wilson, Greenville, attended the meeting of the Central Medical Society held in Jackson recently.

Dr. John Lucas and Dr. John Archer, Greenville, attended the Ole Miss-State football game at Oxford.

Mrs. F. M. Acree, Greenville, spent the Christmas holidays in Texas with relatives. She was joined Christmas day by Dr. Acree.

Dr. and Mrs. T. B. Lewis motored to Jackson and Columbia, where they visited relatives.

Mrs. Christian, Noblesville, Ind., is a guest in the home of Dr. and Mrs. J. A. Beals, Greenville.

A Happy and Prosperous New Year is the wish of this editor to you all.

JOHN G. ARCHER County Editor
Greenville, Dec. 7, 1935.

WEBSTER COUNTY

Congratulations to our "Mississippi Doctor." We are proud of this splendid journal and of the phenomenal success attained by our able editor, Dr. Anderson.

The doctors of Webster County attended practically all of the lectures given by Dr. Lapham on obstetrics at Houston in November.

I think this is a fine contribution by the Mississippi Medical Association and hope that we may have more lectures later, on other branches of medicine.

Our doctors are all well and we are collecting enough to at least get by with.

W. H. CURRY, County Editor.
Eupora, Dec. 6, 1935.

WILKINSON COUNTY

The friends of Mrs. S. E. Field regret to learn of her continued illness, and wish for her a speedy recovery.

The writer recently returned from a visit to Atlanta, and reports that the building program which was begun at the Grady Hospital several months ago is now completed. This additional space, utilized largely for the out-patient clinics, is strictly modern, and satisfies a long felt need in the teaching facilities of Emory University.

EDWIN M. BUTLER, County Editor
Centreville, Dec. 9, 1935.

WINSTON COUNTY

Attending the meeting of the East Mississippi Medical Society were Dr. T. F. Kilpatrick, Dr. and Mrs. W. W. Parks and Dr. and Mrs. M. L. Montgomery. They reported an interesting meeting.

Dr. T. C. Suttle was in town this week on business.

Dr. W. B. Hickman is erecting a handsome residence.

We note the announcement of the marriage of Miss Mary Louise Richardson, daughter of Dr. and Mrs. E. L. Richardson, to Mr. John Stuart Fair.

Drs. T. L. Young, C. A. Kirk and L. T. Parks were on the streets in our city this week.

M. L. MONTGOMERY, County Editor
Louisville, Dec. 8, 1935.

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Woman's Auxiliary

TO THE

MISSISSIPPI STATE MEDICAL ASSOCIATION

President—Mrs. Leon S. Lippincott, Vicksburg.
President-Elect—Mrs. Adna G. Wilde, Jackson.
Secretary—Mrs. H. C. Ricks, Jackson.
Treasurer—Mrs. J. W. D. Dicks, Natchez.
Press and Publicity Chairman—Mrs. Hugh Johnston, Vicksburg.

THE WOMAN'S AUXILIARY TO THE ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

The Auxiliary to the Issaquena-Sharkey-Warren Counties Medical Society held its regular meeting in the Monroe Room of the Hotel Vicksburg, Nov. 19.

Miss Zita O'Leary planned a most delicious menu and in the table decorations, using yellow chrysanthemums and tall tapers of harmonizing colors.

The program proved very interesting as a report of the meeting of the Auxiliary to the Southern Medical Association was given. Mrs. John Birchett made all wish that they could have attended the meeting in St. Louis.

Mrs. Hugh Johnston gave an account of a delightful motor trip to Baltimore.

Plans were made for the annual sale of the tuberculosis seals. Mrs. W. K. Purks was appointed chairman for the Auxiliary.

Mrs. M. H. Bell, chairman, Mrs. W. C. Pool, and Mrs. Sidney Johnston drew up resolutions upon the death of our beloved member and past president, Mrs. H. S. Goodman, which were read by Mrs. Bell.

RESOLUTIONS

Whereas, death has taken from us one of our most beloved and honored members, and

Whereas, we knew her to be a most efficient president and faithful worker, and

Whereas, we feel deeply the loss of her cheerful presence and wise counsel,

Therefore, be it resolved by the members of the Woman's Auxiliary to the Warren Counties Medical Society that we offer and adopt these resolutions and order them spread on the minutes and a copy be sent to the family.

A nominating committee was appointed: Mrs. Preston Herring, chairman; Mrs. J. S. Ewing, Mrs. George Street, and Mrs. I. C. Knox.

The next meeting was announced for Dec. 10, at which time a large number of doctors will be guests.

Dr. and Mrs. Edley Jones, Dr. and Mrs. Laurance Clark and Dr. and Mrs. John Birchett attended the annual meeting of the Southern Medical Association at St. Louis.

Mrs. Leon S. Lippincott, president of the Wo-

man's Auxiliary to the Mississippi State Medical Association, attending a meeting of the executive board of the Woman's Auxiliary to the American Medical Association in Chicago in November. She went from Chicago to St. Louis to attend the meeting of the Auxiliary to the Southern Medical Association but unfortunately had to leave for home on account of illness before the Auxiliary met.

Dr. and Mrs. I. C. Knox enjoyed a short vacation in Memphis.

Dr. and Mrs. C. J. Edwards made a trip to New Orleans. Mrs. Edwards also motored to Baton Rouge where she enjoyed the Mississippi State-L. S. U. football game with her son, Franklin.

Dr. and Mrs. Hugh Johnston have returned from a pleasant motor trip to Baltimore.

Mrs. Howard Turpin and family have been visiting Dr. and Mrs. H. H. Haralson.

Dr. and Mrs. Guy Jarratt spent a week-end in Memphis. While there they enjoyed an interesting football game.

Dr. and Mrs. Sydney Johnston will have as their guests Dr. and Mrs. P. W. Brown, from Rochester, Minn.

Mrs. Leon Lippincott's mother, Mrs. Holcomb, continues ill, much to the regret of her many friends.

Mrs. Pierre Robert has had as her guest her mother, Mrs. R. L. Kirkwood, of Oxford.

MRS. L. J. CLARK, President.
Vicksburg, Dec. 5, 1935.

THE WOMAN'S AUXILIARY TO THE CENTRAL MEDICAL SOCIETY

On Tuesday at the monthly luncheon of the Auxiliary to the Central Medical Society three distinguished visitors were entertained. They were Mrs. Leon S. Lippincott, Vicksburg, president of the Woman's Auxiliary to the Mississippi State Medical Association; Dr. J. R. Hill, Corinth, president of the Mississippi State Medical Association; and Dr. Harvey Garrison, Jackson, president-elect of the Mississippi State Medical Association and councilor from the Central Medical Society to the local Auxiliary.

Mrs. G. O. Segura, president of the Auxiliary to the Central Medical Society, asked each of the honor guests to make speeches, which proved to be highlights at the very interesting and enjoyable meeting.

The banquet hall at the Edwards Hotel had been beautifully decorated by Mrs. John Howell, a Canton member of the Auxiliary, with chrysanthemums in tones of yellow and with many yellow tapers. Tiny turkeys, made out of pine burs, brought out the Thanksgiving motif in the decorations.

President at the luncheon were: Mrs. Lippincott, Dr. Hill, and Dr. Garrison, honor

guests; Mrs. Segura, president; and Mesdames J. M. Acker, Jr., Temple Ainsworth, J. G. Armstrong, Harvey Garrison, Van Dye Hagaman, W. F. Hand, J. C. Huggins, W. F. Henderson, N. R. Curry, A. G. Wilde, Noel Womack, T. W. Kemmerer, Robin Harris, R. N. Whitfield, J. A. Milne, Percy Wall, W. E. Noblin, George W. Owen, F. D. Hollowell, H. C. Ricks, George F. Riley, H. C. Sheffield, Felix J. Underwood, F. L. Van Alstine, Brister Ware, all of Jackson, and John Howell of Canton.

HONOR ROLL

The following have contributed to this number of the official journal:

COUNTY EDITORS: Lucien S. Gaudet; Douglas D. Baugh; N. C. Knight; L. L. Minor; J. R. Simms; W. B. Dickins; G. S. Bryan; Dudley Stennis; G. E. Godman; R. P. Donaldson; H. B. Cottrell; H. T. Ims; John G. Archer; W. H. Curry; Edwin M. Butler; M. L. Montgomery.—10.

SOCIETIES: Clarksdale and Six Counties, N. C. Knight; Coahoma County Medical Society, N. C. Knight; East Mississippi, T. L. Bennett; Central, L. W. Long; Issaquena-Sharkey-Warren Counties, L. C. Lippincott; Newton County, Dudley Stennis; Northeast Mississippi, A. J. Stacy; Pontotoc County, R. P. Donaldson; Tri-County, R. B. Zeller; Wilkinson County, Edwin M. Butler.—10.

WOMAN'S AUXILIARY: Mrs. Hugh H. Johns-

ton; Mrs. L. J. Clark; Auxiliary to the Central Medical Society.—3.

HOSPITALS: Houston Hospital, Douglas D. Baugh; Vicksburg Infirmary, N. B. Lewis; Vicksburg Sanitarium.—3.

OTHERS: T. M. Dye; Felix J. Underwood; H. R. Fairfax; J. A. K. Birchett, Jr.; R. A. Street, Jr.—5.

GRAND TOTAL—37.

A HAPPY NEW YEAR.

NEW AUXILIARY ORGANIZED

The wives of the Northeast Mississippi Thirteen County Society organized themselves into an auxiliary to this society at the December meeting in Tupelo. Mrs. W. H. Cleveland, of Tupelo, was chosen president of the auxiliary, and Mrs. W. H. Anderson, Booneville, secretary-treasurer.

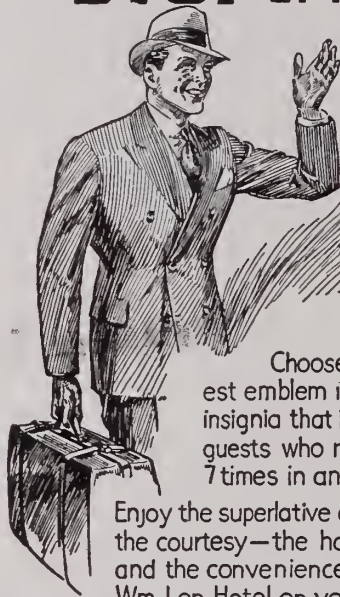
The purpose of any organization of this kind is primarily to promote a greater friendship among the wives of the doctors, to acquaint themselves with the endeavors of the medical society, and finally, to support the ideals to which the profession is dedicated.

The doctors of Northeast Mississippi are urged to bring along their wives to the meeting in Starkville in March, and a congenial and profitable association is anticipated.



The above handsome ladies are our powers behind the throne, if not the reigning heads, for they are the past presidents of the Woman's Auxiliary, and the acting president. Reading from left to right sitting, Mrs. W. F. Garrison, Mrs. W. C. Pcol, Mrs. Leon S. Lippincott, Mrs. D. J. Williams, Mrs. S. W. Johnson, Mrs. Phillip W. Brown, Mrs. F. M. Smith. Standing, left to right, Mrs. H. H. Johnston, Mrs. W. F. Henderson, Mrs. L. J. Clark, Mrs. R. A. Street, Jr., Mrs. J. B. Howell.

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At HOTEL PEABODY, MEMPHIS, TENN.
FEBRUARY 11, 12, 13, 14, 1936

Read the list of those who will deliver addresses and make your hotel reservations at once.

Dr. Emil Novak, Assoc. Prof. Obst., Univ. of Med., Baltimore, Md.

Dr. I. S. Wechsler, Prof. Clin. Neur., Columbia Univ., Coll. of Phys. & Surg., New York, N. Y.

Dr. R. H. Jaffe, Prof. Path., Rush Med. Coll., Univ. of Chicago, Chicago, Ill.

Dr. Claude S. Beck, Assoc. Prof. Surg., Western Reserve Univ., Cleveland, Ohio.

Dr. C. R. Straatsma, New York, N. Y.

Dr. W. C. Alvarez, Assoc. Prof. Med., Univ. Minn., Grad. Sch. Med., Rochester, Minn.

Dr. Harlow Brooks, Prof. Emer. Clin. Med., New York, N. Y.

Dr. Conrad Berens, New York, N. Y.

Dr. E. M. Landis, Ass't. Prof. Med., Univ. of Penn., Philadelphia, Pa.

Dr. John T. Murphy, Toledo, Ohio.

Dr. K. D. Blackfan, Prof. Ped., Harvard Univ., Boston, Massachusetts.

Dr. Gilbert J. Thomas, Ass't. Prof. Urol., Univ. of Minn., Minneapolis, Minn.

Dr. David L. Farley, Philadelphia, Pa.

Dr. Josephine B. Neal, Clin. Prof. Neur., Columbia Univ., New York, N. Y.

Dr. Frank H. Lahey, Boston, Mass.

Dr. H. M. Taylor, Jacksonville, Fla.

Dr. Norman F. Miller, Prof. Obst. & Gyn., Univ. of Mich., Ann Arbor, Mich.

Dr. F. C. Kidner, Detroit, Mich.

Dr. J. R. McCord, Prof. Obst. & Gyn., Emory Univ., Atlanta, Georgia.

Dr. John A. Killian, New York, N. Y.

Dr. Abraham Levinson, Chicago, Ill.

Dr. Samuel A. Levine, Ass't. Prof. Med., Harvard Univ., Boston, Mass.

Dr. Norman Bethune, Montreal, Canada.

Dr. Frederick A. Collier, Prof. Surg., Univ. of Mich., Ann Arbor, Mich.

Program will be mailed February 1st. Write for one if you do not receive yours.

DR. A. F. COOPER, Secretary-Treasurer

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Dr. George E. Riley

The Mississippi Doctor

VOL. 13.

BOONEVILLE, MISSISSIPPI, FEBRUARY, 1936

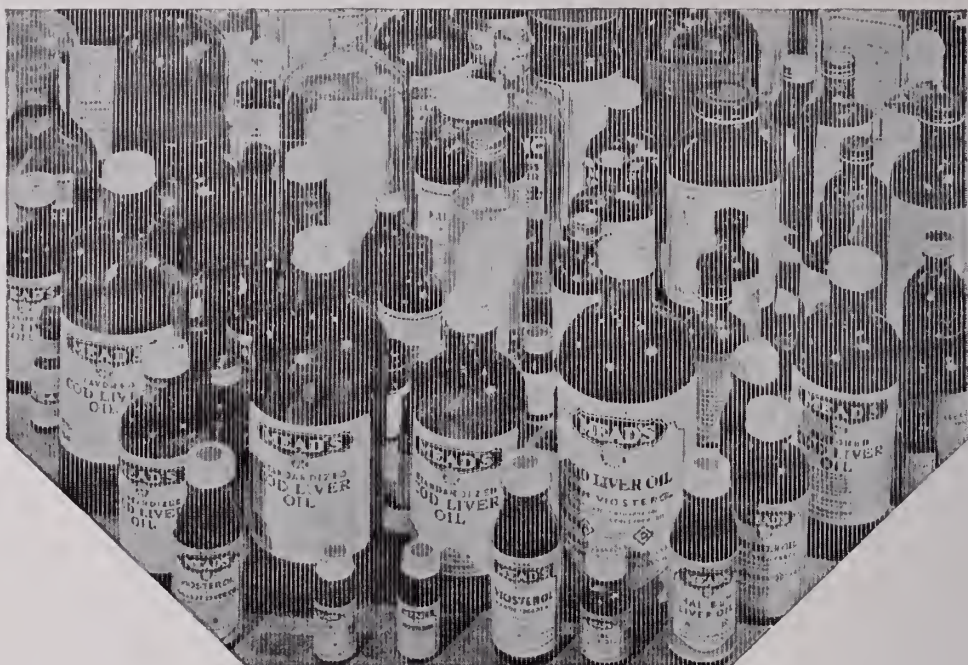
NO. 9



DR. H. KING WADE

Hot Springs, Arkansas

President of the Mid-South Post Graduate Medical Assembly which convenes at the Peabody Hotel, Memphis, Tenn. Feb. 11-14. A courtly gentleman who has gone forward and shown the way in the medical profession.



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Incidentally, of all the vitamins A-D products on the market, only Mead's give no dosage directions on label or carton.



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Exhibitors of the Mid-South Post Graduate Medical Assembly

Below is a list of the exhibitors of the Mid-South Post Graduate Medical Assembly for the February meeting. We should deeply appreciate their cooperation. They are a big factor in financing this association. The men representing the companies help to boost the meeting. They tell members of the profession about the opportunities the association offers. They are our friends and we are theirs, should be. We are all working in a common cause.

Gwinner Mercere Co., Memphis, Tenn.
Bilhuber Knoll Corporation, Jersey City, N. J.

General Electric X-Ray Corporation, Chicago, Ill.

Richards Manufacturing Co., Memphis, Tenn.

Mead Johnson & Co., Evansville, Ind.
Scientific Sugars Co., Indianapolis, Ind.
Schering Corporation, Bloomfield, N. J.
J. A. Majors Company, New Orleans, La.
Merck & Company, Rahway, N. J.

Ohio Chemical & Manufacturing Co., Memphis, Tenn.

Aznoe's National Physician's Exchange, Chicago, Ill.

S. H. Camp and Company, Jackson, Michigan.

C. V. Mosby Company, St. Louis, Mo.
Libby, McNeill, & Libby, Chicago, Ill.

Bard, Parker Company Inc., Danbury, Conn.
A. S. Aloe Company, St. Louis, Mo.
Gerber Products Company, Fremont, Mich.
E. R. Squibb & Sons, New York, N. Y.
Mellins Food Company, Boston, Mass.
Southern Surgical Supply Co., Memphis, Tenn.

The Arlington Chemical Company.
W. F. Pryor Company Inc., Hagerstown, Md.
De Vilbiss Company, Toledo, Ohio.
Philip Morris Cigarette Co., New York, N. Y.
Lea & Febiger, Philadelphia, Pa.
Heidbrink Company, Minneapolis, Minn.
Puritan Gas Company, Kansas City, Mo.
J. B. Lippincott Company, Philadelphia, Pa.
Middlewest Instrument Co., Chicago, Ill.
Lederle Laboratories, New York, N. Y.
R. B. Davis Sales Company.



This is a likeness of Dr. Gilbert Levy. He has charge of the space for the exhibitors. He is efficient and he is courteous. He loves to do service. Much credit is due him for the success of the Mid-South. We should greatly appreciate his services.

Mallinckrodt Chemical Works, St. Louis, Mo.
Illinois Surgical Supply Co., Chicago, Ill.
Abbott Laboratories, North Chicago, Ill.
The Mennen Company, Newark, N. J.
Dick X-Ray, Memphis, Tenn.
Petrolagar Laboratories, Long Island City, New York.
Duke Laboratories, Chicago, Ill.
American Sterilizer Co., Erie, Pa.
Kelley Koett Manufacturing Company.
Marcelle Laboratories.
Shelby County Tuberculosis Society, Memphis, Tenn.
Baptist Memorial Hospital, Memphis, Tenn.
University of Tennessee, Memphis, Tenn.
Dr. John A. Killian—Vitamins, New York, N. Y.
Last four named are scientific exhibits.



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Clinical results have definitely proved that the daily use of the Oil keeps the baby's skin in better condition, and increases its defenses against infection.

Many physicians have written us to the effect that the regular use of Mennen Anti-

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The Mississippi Doctor

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W. H. ANDERSON, M.D., Editor and Mgr. — — MILDRED P. ANDERSON, Assistant Editor

Official Organ of
Mississippi State Medical Association Mid-South Postgraduate Medical Assembly

Owned by
Northeast Mississippi 13 County Medical Society

Mid-South Post Graduate Medical Assembly

Editors:

E. M. Holder, M.D. C. R. Crutchfield, M.D.
C. M. Speck, M.D. H. King Wade, M.D.
F. M. Acree, M.D. Dewell Gann, Jr., M.D.

Northeast Mississippi 13 County Medical Society

Editors:

G. S. Bryan, M.D. R. B. Caldwell, M.D.
W. A. Johns, M.D.
V. B. Philpot, M.D. Carl Feemster, Jr., M.D.

Mississippi State Medical Association

Editors:

Leon S. Lippincott, M.D.

J. W. D. Dicks, M.D.

D. W. Jones, M.D.

Published monthly at Booneville, Mississippi. Annual subscription \$1.00.

Entered as second-class matter, January 18, 1926 at the post-office at Booneville, Miss., under the Act of March 3, 1870.

I wish to urge all of the physicians in the Mid-South to avail themselves of the four days Post Graduate Course given by the Mid-South Post Graduate Association at Memphis, February 11th, 12th, 13th and 14th. This organization offers the physician more in the way of practical knowledge than any other that meets in this section. The program committee has arranged a scientific program this year that is unexcelled. The committee on entertainment has prepared for you an unusual treat in the way of entertainment. You can not afford to miss this meeting.

H. KING WADE.

You can not afford to miss the Mid-South, Feb. 11-14. The practitioner can get more at this convention in four days than any we know about in the United States. It does you a lot of good to rub elbows with the medical profession of Memphis, to breathe the medical atmosphere emanating from their growing medical school, and to feel the warmth of Memphis' Southern culture and hospitality.

We deeply appreciate the full page advertisement from E. R. Squibb & Son. It shows its bigness by this material evidence of co-operation.

You hear many papers on appendicitis, but very few that ever touch on the problem as a whole.

Dr. Harvey Garrison is making an appeal for membership in this issue. Dr. Garrison is president-elect of the Mississippi State. He is aiding Dr. Hill in pushing the membership drive. One of the least things a man can do in organized medicine is to join his local and state society and pay his dues. You might as well try to raise yourself by your boot straps as to rise very high in the medical profession without belonging to your local medical society. It is true that times have been hard, are yet, but yet we must in some way provide the dire necessities. A membership in your society is imperative to the progressive practitioner. Any man might go to church on a beautiful day in May, but the man worthwhile will go through the sleet and snow in January. Your medical society is your big brother in time of need, your kindly father when in need of advice, your mother as a source of sympathy and inspiration, and your constant medical school to aid you in serving a needy clientele. Even a dead man will drift, but the man the most worthwhile will fight the current. Don't turn down your best friend. Join your medical society.

Dr. Conley Sanford is the new chairman of the program committee of the Mid-South. He is friendly, courteous, appreciative, full of poise and progressive in organized medicine, and has ideals. He will no doubt meet the responsibility that is his.

It looks as tho Mississippi will adopt a new plan for the distribution of charity funds for the indigent sick. It is to be a percapita distribution for the entire state and any hospital that comes up to the standard may participate on an actual cost plan. It will be a great step forward, a step from the ox-cart to the Packard in medicine. This plan has been under consideration in Mississippi for several years. By some who opposed, it has been called pork barrel. It does mean a little strip of the bacon of human kindness to all alike. It will be an economical plan when every angle is considered. It is fair and it is humane. There is only one county in the state that does not have a hospital or adjoins a county that does. So under this plan every person in the state may be served. And this does not mean that more people in the state should have hospital aid than has been receiving it. It just means if the funds are used as they should be that the ones urgently in need over the state may have help and many who are not so much in need will be left off. Better hospital service will raise the efficiency level of the medical profession and aid in a more even distribution of doctors. This system will also be conducive to post graduate extension courses, to the carrying of medical courses to the busy practitioner. It will help to keep us out of state medicine rather than lead us into it as some have insisted on believing. It will be a nice piece of cooperation between the state and the hospitals with the hospitals safeguarding the people. In adopting this progressive plan Mississippi will set a fine example for other states to follow. Medical service must be carried out to the commercial firing lines. It must go largely by way of the hospitals.

At the Mid-South The Miss. Doctor will have a stenographer to take down an outline of any papers that are not already to be turned over to it for publication. Last year we had some confusion about papers that we hope never to have again. This journal publishes every paper read before the society. The papers are the property of the journal as soon as read. Each year we publish several thousand extra copies advertising this meeting. The association has no financial obligation what ever to the journal. The subscription to the journal is only one dollar. The Mississippi Doctor has carried on for the association during these years of the depression. Gratitude is the greatest human virtue. Thank you.

This is the regular Mid-South issue of The Mississippi Doctor and is going out more than four thousand strong boosting the February meeting. The journal has done this for three years. No obligation.

In this issue you will note the pictures of the state board of health with a brief sketch of each. Recently there have been three new members named. We will have them in the next issue. Dr. Felix J. Underwood is executive secretary. He succeeded Dr. W. S. Leathers now Dean of Vanderbilt. Dr Leathers laid a fine foundation for public health work in Mississippi. Dr. Underwood has built a great structure on it. We doubt if there is a more efficient health officer in the United States than Dr. Underwood. He has a vision for the work. He is diplomatic. He has practical application. As Surgeon-General he would be another Gorgas.

In our "Who's Who in Mississippi Medicine" in this issue you will read with much interest a brief sketch of Dr. G. S. Bryan, of Amory. He is indeed and in truth a corner stone in organized medicine in Mississippi. He has ideas and ideals. He has kept on keeping on. He has a sympathetic heart for the sick. He has a great store house of information. He keeps posted in his profession and on general information as a citizen. He studies his patient in all of his relations to life as well as the disease attacking him. His judgment is good and his wisdom is superior. He is not well at this time. We are wishing for him a speedy recovery.

Read the program of the Mid-South. Look into the faces of the essayists. Observe the array of hotels. Think of Memphis on the Father of Waters, the city of Southern culture and refinement, the growing city of the South. Think of the cordial medical profession of this distinguished metropolis and their high standing in the profession. Think of the fine medical atmosphere created by a medical school that continues to forge to the front. Lay aside your work for four days. Give yourself a social treat and a post graduate course that will do you good the rest of your days.

You will read with interest and profit a brief sketch of our tubercular hospital at the Sanatorium, its history and accomplishments. The state and the medical profession should feel much pride in this institution. Every physician in the Mid-South should visit it, representatives of many nations of the earth have already done so. It is a fine tribute to our state in its fight on the Great White Plague. It is a convincing evidence of the great vision of Dr. Boswell and his unsurpassed executive ability.

Now that Meade Johnson, Eli Lilly, Parke Davis and E. R. Squibb are cooperating with The Mississippi Doctor with nice advertisements it is time for others to follow suit.

Members of the profession over the entire state extend their sympathy to their state editor, Dr. Leon S. Lippincott, who lost his mother a few weeks ago. Dr. Lippincott was called to the family home in Maine, where his mother had been stricken ill only a short time, and died soon after he reached her bedside. The Mississippi Doctor offers its deepest sympathy.

To every man the loss of his mother means the loss of the most understanding heart, the most sympathetic ear, the most loving and forgiving spirit; the sweetest memories of childhood are woven about her; the bravest will to "carve our names high" were first inspired at her knee; and she is a symbol of earth's dearest blessing.

A Letter From Dr. Bryan

When I promised to furnish some copy for each succeeding issue of The Mississippi Doctor, I made this promise in good faith. But a struggle of something more than two months' duration, with obstructive jaundice has disqualified me from furnishing the kind of copy that might be of interest to the hosts of readers, new and old, of the journal. So I shall beg the indulgence of the Editor-in-Chief, also of its readers and beg permission to express my heartfelt gratitude for and appreciation of the scores of letters, telegrams and phone messages from my friends in the profession. These kindly expressions have come from every quarter of the state, as well as many from beyond its borders. I can never hope to be able to express my appreciation for these evidences of loyal friendship. Especially do I wish to thank the ladies who have been so kind as to remember me with flowers and messages. I must be permitted to refer especially to a visit from Dr. E. C. Parker and his estimable wife. They left Gulfport immediately after hearing of my illness and drove nearly the whole length of the state to express their friendly interest in me. This trip required a night spent enroute. I shall always love them for this manifestation of their regard for me. Then I must be permitted to mention visits paid me by two dear friends namely, Drs. Seale Harris and James S. McLester, of Birmingham.

Last, but not least, I can not fail to speak of a long letter from an old, old friend, Dr. C. T. Keyes from the far west, at San Angelo, Texas. Dr. Keyes is, himself, bed-ridden—has been for nine months. Nevertheless when he saw mention of my illness in the press, he at once, wrote me. Dear friends, I want you to know that you have brought much joy to me and have given me courage to fight. How I wish that I might feel that I deserve such splendid friends. I am feeling better altho I am still

under the care of two of the kindest and best nurses to be found any where. If and when I get better, I shall be glad to try to send different copy for The Mississippi Doctor, the best medical journal in the South.

G. S. B.

Book Review

The last edition of **OSLER'S PRINCIPLES AND PRACTISE OF MEDICINE**, by Thomas McRae, M.D., is one of the most valuable books that can be obtained by the general practitioner, for the book is one of the best of text books, containing the sound and established knowledge of the inimitable Osler. The book is staid by a conservatism which emphasizes the unity of medicine as a study, a study of the individual human being as a whole and not one or more phases of internal medicine into which our practise has been split. He stresses the importance of knowing all that is possible about the patient, and has therefore constructed this textbook to emphasize the clinical side of disease problems. There are many changes in the book that have become necessary with new diseases, and others of increased importance, while many have practically disappeared. The textbook begins with specific infectious diseases, continues with those due to physical agents, intoxications, deficiency and metabolism, then takes up section by section diseases of the various systems. Price \$8.50. Published by D. Appleton-Century, New York.

Book Review

THE TREATMENT OF DIABETES MELLITUS, by Elliott P. Joslin, M.D., is the work of a leading authority on the treatment of diabetes mellitus who has treated 13,000 cases of this disease in his 37 years of practice "The book summarizes the vast progress in the study of the disease, particularly in relation to the endocrine glands. It provides the physiological and pathological background so essential to complete understanding, shows how the needless deaths that result from coma and gangrene may be avoided, and points out the dangers of neglected obesity." He shows that there has been an increase in the number of cases in women over 45 years of age, and the death rate in women exceeds that of men 76 percent. He goes into detail explaining the part the hereditary role, the family dietary and obesity play in diabetes mellitus. He furthermore estimates that there are 500,000 diabetics in the United States alone, and the book offers excellent preparation to the general practitioner in treating these patients. Price \$6.00. Published by Lea & Febiger, Philadelphia, Pa.

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High Carbohydrate—Low Fat Diets In the Treatment of Diabetes Mellitus; and Low Carbohydrate—High Fat Diets In Hyperinsulinism*

SEALE HARRIS, M.D.
Birmingham, Ala.

Diabetes mellitus (hypoinsulinism) resulting from the deficient secretion of insulin by the islands of Langerhans and characterized clinically by hyperglycemia, glycosuria and polyuria, with a tendency in the severe cases to acidosis (ketosis), coma, and gangrene of the lower extremities, is the antithesis of hyperinsulinism, a condition resulting from the excessive secretion of insulin and characterized clinically by hypoglycemia, the manifestations of which are protean gastro-intestinal, cardiac, neurologic and psychic phenomena, with a tendency in the severe cases to recurring attacks of convulsions and unconsciousness. Therefore, it is evident that in the dietary management of these two opposite conditions, one should be the antithesis of the other.

It seems rational in the treatment of diabetes mellitus (hypoinsulinism) to adopt a dietary regimen directed towards increasing insulin production, and promoting the storage of glycogen in the liver, thus facilitating carbohydrate metabolism. On such a dietary regime blood sugar levels are lowered, the severity of the disease is ameliorated, the dangers from complications, such as acidosis, arteriosclerosis and gangrene are decreased. Likewise, in the treatment of hyperinsulinism, it seems best to follow diets that depress insulin secretion and decrease glycogen storage in the liver, thus raising the blood sugar levels, and thereby inhibiting, to some degree, the metabolism of carbohydrates. Such diets prevent hypoglycemia, with its many more or less serious manifestations.

DIETARY PRINCIPLES INVOLVED IN INCREASING CARBOHYDRATE METABOLISM

The metabolism of carbohydrates depends largely upon the amount of insulin in the blood, or the degree of its utilization. The ingestion of sugars and starches stimulate insulin production. The studies of Lennox seem to show that the larger the quantity of ingested glucose the greater the degree of stimulation of the blood sugar regulating mechanism

of the body. He found that the ingestion of 1.5 grams of glucose per kilo of body weight caused, after the temporary rise, a greater degree of hypoglycemia than 0.75 grams per kilo.

Swenney, of Dallas, Texas, has demonstrated that diets with high carbohydrate content are followed by higher blood sugar levels, thus increasing sugar tolerance, whereas diets with high fat content cause hyperglycemia and diminished sugar tolerance. If carbohydrates stimulate insulinogenesis, it would seem that a high carbohydrate diet would increase the output from a poorly functioning pancreas of the diabetic, unless all the islet cells have been destroyed by a previous disease of the pancreas, when it is obvious that there could be no increase in function. Soskin and Campbell, however, have shown that depancreatized dogs when placed on a pure carbohydrate diet will improve temporarily and live longer than if placed on a diet containing fats. In other words, a high carbohydrate diet will postpone the acidosis (ketosis) and coma from which depancreatized animals die.

Best, who collaborated with Banting in the discovery of insulin and who succeeded Macleod as Professor of Physiology in the University of Toronto, seems in accord with the theory that the ingestion of carbohydrates stimulate the insulinogenic apparatus. In a recent address Best said: "The evidence seems overwhelming that a rise in sugar content of the blood increases the output of insulin."

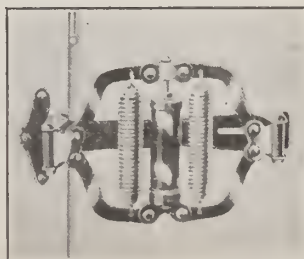
Recent results obtained from a high carbohydrate low calorie diet in diabetes reported by Sansum, Geyelin, and Rabinowitch seems to show that the insulinogenic function of the pancreas may be at least partially restored by resorting to the use of quantities of carbohydrate not dreamed of by clinicians prior to the insulin era in the treatment of diabetes. Certainly such diets increase insulin efficiency so that according to the experience of Sansum, Geyelin and Rabinowitch one unit of insulin will in many cases metabolize two or three times as much carbohydrate on the new diabetic diets as when the same patient was on

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*Read before the Section on Medicine at the Sixty-Eighth Annual Session of Biloxi, May 14, 1935.

the low carbohydrate, high fat diet.

Sansum, who in 1926 reported his favorable results from the use of a high carbohydrate and relatively low fat diet, believes that on such a diet there may be actual regeneration of the damaged islands of Langerhans. Sansum cites Shields Warren and Root as having demonstrated that the islands of Langerhans in diabetics can and do regenerate. The fact that on a higher carbohydrate diet diabetics improve in every way, requiring a lower insulin dosage, Sansum believes is evidence of greater efficiency of the patient's insulogenic apparatus. Since on the high carbohydrate—low fat diets many diabetics improve to the extent that they cease to need insulin and can metabolize a normal diet, Sansum suggests that it may be "another step towards the curation treatment of diabetes."

Woodyatt doubts the theory that the high carbohydrate—low fat diets actually cause a regeneration of the islands of Langerhans. He is of the opinion that while it is true that on the high carbohydrate-low fat diet no more insulin may be required to keep the diabetic's urine sugar free and his blood sugar normal than when he was taking one-half the carbohydrates and a high fat diet, he cannot metabolize more calories than when most of his food was made up of fats. Woodyatt suggests that on the high carbohydrate—low fat diet much of the ingested carbohydrate is changed into fat and then oxidized. This observation is important in that it explains the necessity for reducing the fats in using the high carbohydrate diet.

Aldersburg and Porges, in Vienna, no doubt working independently of Sansum, Gyeilin, and Rabinowitch have had equally good results with the high carbohydrate-low fat diets. They believe that the value of this diet comes from the fact that there is increased storage of glycogen and decreased deposits of fats in the liver. They claim that carbohydrate metabolism both of normal individuals and diabetics, is increased when the glycogen deposits of the liver are filled; and that when there is an excess of fat storage in the liver the ability to metabolize sugar is diminished.

While carbohydrates stimulate insulogenesis there is ample evidence to prove that fats depress the function of the islands of Langerhans. Rabinowitch cites Allen as having demonstrated that dogs partially depancreatized, to the border-line of diabetes, can be made diabetic on a fat-protein diet. He also cites Wilder as having made a potential diabetic a complete diabetic by giving him only meat and fat, a carbohydrate free diet. Shepherdson states that blood sugar levels will rise on a low carbohydrate diet. He quotes Weeks, Renner and Wishart as having observed in a study of epileptic patients on high fat diets that in every

case they developed hyperglycemia.

If a diet high in carbohydrates tends to lower blood sugar levels, whether by stimulating insulogenesis, or by promoting the deposit of glycogen in the liver, it would seem that we have been wrong in giving our diabetics low carbohydrate-high fat diets! and such seems to be a fact. Therefore, we should correct our mistakes and reverse the ratio of carbohydrates and fats. Practical experience in the management of diabetes on high carbohydrate-low fat diets over a period of ten years by Geyelin and the excellent results reported by Rabinowitch with his "high carbohydrate low calorie" diet in more than 1000 cases of diabetes seem to indicate that in diabetes mellitus the ratio of carbohydrates to fats should be between 3 and 4 to 1.

THE PREVENTION OF ACIDOSIS AND ARTERIO-SCLEROSIS IN DIABETES

In dieting a diabetic there are other equally important considerations besides the effort to stimulate increased insulin production. The question of an adequate, well balanced diet, with the proper mineral and vitamin content is important, likewise the prevention of acidosis and arterio-sclerosis should be considered in dieting the diabetic. Certainly a high carbohydrate-low fat diet tends to prevent acidosis. Sansum says that even on a carefully balanced diet over-exercise will produce acidosis from imperfect metabolism of the individual's own fat. Therefore, on the high fat diet that we formerly used there was always the tendency to acidosis (ketosis). Unquestionably the high carbohydrate-low fat diet lessens the hazard of acidosis and coma in diabetes.

Arterio-sclerosis in the diabetic, resulting in gangrene, coronary disease, nephritis, apoplexy, and other complications, is receiving a great deal of attention at this time. Ignatowsky, and other German investigators produced arterio-sclerosis in animals by feeding them on high fat diets. They believe that hypercholesterinemia was the cause of the degenerative arterial changes in experimental arterio-sclerosis. Joslin and Root and other American investigators, have contributed much to the available knowledge of the incidence of arterio-sclerosis in diabetes. Rabinowitch cites Shields Warren as having made the statement that he "had never performed an autopsy on a diabetic of any age who had had diabetes for five years without finding evidences of arterio-sclerosis."

Hypercholesterinemia from high fat diets is accepted as an important cause of the degenerative arterial changes in diabetes. Rabinowitch has found that the high cholesterol content of the blood in diabetics is usually reduced to normal by his "high carbohydrate-low calorie" diet. At the recent meeting of the American College of Physicians in Philadelphia

he presented a report on the cholesterol content of the blood in diabetics on high carbohydrate low calorie diets over a period of five years. There was the return to normal cholesterol content of the blood in nearly all the diabetics so treated.

Rabinowitch and his associates in the Montreal General Hospital made careful studies of their diabetics at the beginning of treatment, not only as to the cholesterol content of the blood, but as to clinical evidences of arterio-sclerosis. They found from many thousand blood cholesterol determinations that with few exceptions at the beginning of treatment of their diabetics they had hypercholesterinemia. The cholesterol content of the blood of the diabetics on Rabinowitch's high carbohydrate-low diabetics who were treated on the low carbohydrate-high fat diets and insulin, the blood cholesterol remained high.

Clinical studies on the diabetics who had been treated with Rabinowitch's high carbohydrate-low calorie diet and insulin over a period of five years, showed that in younger diabetics they did not have evidences of arterio-sclerosis; whereas the control group treated with low carbohydrate-high fat diets showed high percentage of degenerative arterial changes. In the older diabetics on the high carbohydrate-low calorie diet there was a decreased incidence

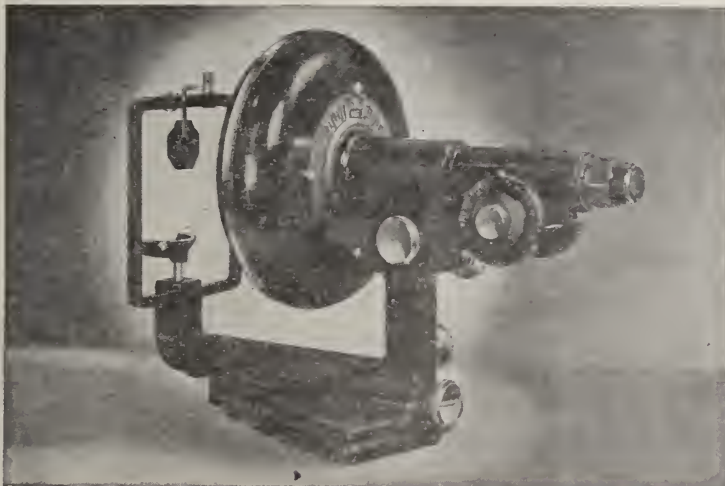
of cardiac and arterial diseases, including angina pectoris, coronary thrombosis and apoplexy.

Rabinowitch's experience over the five year period also showed a much lower incidence of acidosis and coma among diabetics on a high carbohydrate-low calorie diet than among those treated with the low carbohydrate- high fat diets. Rabinowitch's studies combined with those of Geyelin, Sansum, Aldersburg and Porges, and others seem to prove conclusively that diabetics are happier and more efficient on a high carbohydrate-low fat diet, and that the incidence of the complications of diabetes have been reduced very materially by the change from low carbohydrate-high fat diets to an inverse ratio of carbohydrates to fats.

SIMPLIFIED HIGH-CARBOHYDRATE LOW-FAT DIETS IN DIABETES

I am convinced of the soundness of the nutritional principles upon which the high carbohydrate-low fat diets are based; and my limited experience with this innovation in diabetic therapy has been so pleasing that I have adopted it whenever practicable in uncomplicated diabetes. This does not mean that we use the same diet in every uncomplicated case of diabetes; because no two diabetics present exactly the same problems in

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nutrition and treatment, and it is just as necessary to prepare a diet suited to the needs of the individual under treatment as when the low carbohydrate-high fat diets were used.

We have, however, prepared a series of trial diets which may be used with the average uncomplicated cases of diabetes, modifying them to meet the needs of the individual under treatment of diabetes. In order to facilitate their use by the general practitioner estimates of the quantities of each article of food in household measures have been added.

It is highly desirable for the diabetic to have a few days of preliminary diet before placing him upon his maintenance high carbohydrate-low fat diet. Rabinowitch employs what he calls the "ladder diet" to determine whether or not the patient can be rendered sugar free without insulin. On the first day he gives the patient nothing but water, clear well salted fat free broth, tea and coffee. It seems to me that a day of starvation is unnecessary and that the tolerance of the diabetic can be raised more quickly by giving the soluble carbohydrates for one or two days.

For a number of years when a diabetic with diacetic acid in his urine came in for treatment we have given him, every 2 or 3 hours, on the first day 250 cc. (8 ounces) of dextrose-orangeade. This really delicious drink is prepared as follows: 3 ounces of orange juice and 5 ounces of a 5 per cent dextrose solution. It is given cold, or hot. The carbohydrate value of 8 ounces (250 cc.) of this dextrose orangeade is 17 grams, so that if it is given every 3 hours from 7:00 a. m. to 7:00 p. m. and every 5 hours if awake at night, it is the equivalent of 90 to 144 grams of carbohydrate the first 24 hours of treatment. In addition 8 ounces (250 cc.) of water is given one half hour before the first feeding and every 3 hours (1½ hours after the dextrose orangeade) day and night so that the diabetic with the diacetic acid in his urine gets from 4000 to 6000 cc. of fluid in 24 hours. I have seen the diacetic acid and sugar disappear from the urines in 24 hours in many cases of moderately severe diabetes; and in the more severe cases with a tendency to acidosis diabetics usually will become sugar and diacetic acid free by giving 10 units of insulin before the 7:00 a. m., 1:00 and 7:00 p. m. feedings. If there is the tendency to coma, 5 or 10 units of insulin may be given before the other feedings.

In beginning the treatment of diabetes with the ambulatory patient, on the first day we give what we call Trial Diet No. 1. It consists of five meals, one every 3 hours from 7:00 a. m. to 7:00 p. m., each made up of the following: 1 slice of whole wheat bread ½ inch thick, 1 tablespoonful of strained honey, 8 ounces of churned (fat free) butter-milk. The total food value of this diet approximates 165 grams

carbohydrates, 60 grams protein and 10 grams of fat. Water is given freely between feedings. In the South where churned butter-milk is in common use, and generally liked, this diet will surprise and delight the diabetic who has been starved for bread, milk and sweets. If the patient objects to the butter-milk he may have skimmed milk, or if he objects to that he may be given an orange, apple or banana for each feeding.

If the diabetic's urine becomes sugar free on one or two days, as it usually does in mild cases, no insulin is given, and Trial Diet Number 2 is given. This consists of approximately 200 grams of carbohydrate, 50 grams of protein and 40 grams of fat. If on this diet the diabetic's urine is sugar free, Trial Diet Number 3, consisting of 250 grams of carbohydrate, 65 grams of protein and 40 grams of fat is given for one or two days. If the urine remains sugar free Trial Diet No. 4., 300 grams carbohydrate, 80 grams protein and 50 grams of fat, is given. This diet, with food value of about 1950 calories will give the average adult diabetic sufficient food to satisfy his appetite and maintain his normal weight and efficiency.

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TRIAL DIET NO. I.*

165 to 175 grams carbohydrate, 60 grams protein, 10 grams fat.
Five meals a day, at 7 and 10 a. m.; and 1, 4, and 7 p. m.

AMOUNT		FOOD	APPROXIMATE FOOD VALUES			
Gms. Oz.	Household measures		Ch.	P.	Fat	Cals.
16 ½	1 slice	Whole wheat bread	8	2	0	40
19 ½	1 tablespoon	Honey	15	0	0	60
240 8	1 glassful	Churned buttermilk (fat free) or skimmed milk	10	10	2	98
Food value of each meal			33	12	2	198
Total food value of 5 meals approximates			165	60	10	990

Note: A banana of average size (6½ inches long by 1½ inches in diameter) or an apple (3 inches in diameter) or an orange (2½ inches in diameter) may be substituted for the bread, honey, and milk at any or all the five feedings.

TRIAL DIET NO. II.

Approximating 200 grams carbohydrate, 50 grams protein, 40 grams fat.

AMOUNT		FOOD	APPROXIMATE FOOD VALUES			
Gms. Oz.	Household measures		Ch.	P.	Fat	Cals.
100 3 1-3	Tablespoons	BREAKFAST				
100 3 1-3	6 cooked	Orange, or apples or 150 gms. ½ grape-fruit, or ½ cantaloupe	12	1	0	52
90 3	½ glass	Oatmeal, or 30 grms. (medium serving) of any dry cereal as rice flakes, corn flakes or wheat flakes—no bran	12	3	1	69
16 ½	1 slice	Skimmed milk	5	3	0	29
19 ½	1	Whole wheat bread or white bread, corn muffin, or small piece of corn bread	8	2	0	40
10		Honey	15	0	0	60
		Butter	0	0	9	81
			52	9	10	331
150 (6½"x1½")		Three Hours after Breakfast:				
		Medium size banana, or 250 gms. medium size apple, or orange	30	1	0	130
45 (3"x1½")		DINNER:				
150 3 1-3	5	Lean meat—steak, roast, lamb, ham, liver, chicken, or fish	0	11	9	125
100 3 1-3	5	Any one or two 5 per cent vegetables as turnip greens, spinach, cabbage, cauliflower, string beans, asparagus	4	2	1	33
150 5		Any 10 per cent vegetable as carrots, squash, English peas, beets, or turnips	7	1	0	32
16 ½	1 slice	Irish potatoes or 75 gms. sweet potatoes	30	3	1	136
		Whole wheat bread, or white bread, or 1 corn muffin or small piece of corn bread	8	2	0	40
			49	29	11	336
16 ½	1 slice	Three Hours after Noon:				
5	1 teaspoon	Whole wheat bread, or 4 crackers	8	2	0	40
		Honey	4	0	0	16
		Medium sized banana may be substituted for bread, butter and honey				
45 ½	3	SUPPER or LUNCHEON:				
		Meat substitutes: Cottage cheese, or the same amount of American, Swiss or other cheese (provided butter is left off) or 50 gms. (3 tablespoonsful) of butter beans, lima beans, or 100 gms. (6 tablespoonsful) English peas	2	9		49
150 3 1-3		Cole slaw, carrots, celery, radishes, tomatoes or any raw vegetable (only 1)	3	1	0	16
16 ½	1 slice	Whole wheat or white bread, or 1 small piece of corn bread	8	2	0	40
	1	Mineral oil mayonnaise	0	0	0	0
100 3 1-3		Baked apples, or medium serving of any fruit (without cream), berries, watermelon, honey dew melon or cantaloupe	12	1	0	52

Butter	0	0	9	81
	25	13	9	238
Approximate food value for day	200	50	40	1360

TRIAL DIET NO. III.

Approximating 250 grams carbohydrate, 65 grams protein, 40 grams fat.

AMOUNT			FOOD	APPROXIMATE FOOD VALUES			
Gms.	Oz.	Household measures Tablespoons		Ch.	P.	Fat	Cals.
			BREAKFAST:				
150	5		Orange, or apples, or 150 gms.—½ grape-fruit, or ½ cantaloupe	16	1	0	52
100	3 1-3	6 cooked	Oatmeal, or 30 gms. (medium serving) of any dry cereal as rice flakes, corn flakes, or wheat flakes—no bran	12	3	1	69
90	3	½ glass	Skimmed milk	5	3	0	29
32	1	1 slice	Whole wheat or white bread, 2 corn muffins or 2 small pieces corn bread	16	4	0	80
40	1-1-3	2-2-3	Honey	32	0	0	128
10			Butter	0	0	9	81
				81	11	10	439
			Three Hours after Breakfast:				
150	(5½"x1½")		Medium size banana, or 250 gms. medium size apple, or orange	30	1	0	130
			DINNER:				
45	(3"x2"x½")		Lean meat—steak, roast, lamb, ham, liver, chicken, or fish	0	11	9	125
150	3 1-3	5	Any one or two 5 per cent vegetables as turnip greens, spinach, cabbage, cauliflower, string beans or asparagus	4	2	1	33
100	3 1-3	5	Any ten per cent vegetable as carrots, squash, English peas, beets or turnips	7	1	0	32
150	5		Irish potatoes, or 74 gms. sweet potatoes	30	3	1	136
30	1	1 slice	Whole wheat or white bread, or 2 corn muffins or 2 small pieces of corn bread	16	4	0	80
240	8		Buttermilk or skimmed milk	10	10	2	98
				67	31	13	504
			Three Hours after the Noon Meal:				
16	½	1 slice	Whole wheat bread, or 4 crackers	8	2	0	40
10	1		Honey	8	0	0	16
			Medium sized banana may be substituted for bread, butter and honey				
			SUPPER or LUNCHEON:				
45	1½	3	Meat substitute: Cottage cheese, or the same amount of American cheese—provided butter is left off; or 50 gms. (3 tablespoons) butter beans, lima beans or 10 gms. (6 tablespoons) English peas	2	9	0	49
150	3 1-3		Cole slaw, carrots, celery, radishes, tomatoes or any 1 raw vegetable	3	1	0	16
30	1	2 slices	Whole wheat or white bread, or 2 corn muffins, or 2 small pieces of corn bread	22	5	0	110
240	8	large glass	Buttermilk or skimmed milk	10	10	2	98
100	3 1-3		Baked apple, or medium serving of any fruit (without cream), berries, watermelon, honey dew melon, or cantaloupe	12	1	0	52
			Butter	0	0	9	81
				49	26	11	406
			Approximate food value for the day	250	65	40	1620

TRIAL DIET NO. IV.

AMOUNT			FOOD	APPROXIMATE FOOD VALUES			
Gms.	Oz.	Household measures Tablespoons		Ch.	P.	Fat	Cals.
			BREAKFAST:				
100	3 1-3		Orange, or apple, or 150 grams—½ grape-fruit, or ½ cantaloupe	12	1	0	52
150	3 1-3	8 cooked	Oatmeal, or 45 grams (large serving) of any dry cereal as rice flakes, corn flakes or wheat flakes—no bran	18	6	2	103

45	1½	3 slices	Whole wheat or white bread, or 2 corn muffins or 2 small pieces corn bread	22	5	0	110
90	3	½ glass	Skimmed milk	5	3	0	29
45	1½	3	Honey	45	0	0	260
45	1½	3	Butter	0	0	9	81
Total food value				102	15	11	635
Three Hours after Breakfast:							
150	(6½"x2"x1")		Medium size banana, or 250 grams, medium size apple or orange	30	1	0	130
DINNER:							
60	(3"x2"x1")		Lean meat—steak, roast, lamb, ham, liver, chicken or fish	0	14	12	164
150	3 1-3	5	Any one or two 5 per cent vegetables as turnip greens, spinach, cabbage, cauliflower, string beans or asparagus	4	2	1	33
100	3 1-3	5	Any ten per cent vegetable as carrots, squash, English peas, beets or turnips	7	1	0	32
150	5		Irish potatoes, or 75 grams sweet potatoes	30	3	1	136
30	1	2 slices	Whole wheat or white bread, or corn muffins or 2 small pieces corn bread	16	4	0	80
100	3 1-3		Baked apple	12	1	0	52
Total food value				69	25	14	497
Three Hours after the Noon Meal:							
16	½	1 slice	Whole wheat bread, or 4 crackers	8	2	0	40
5		1 teaspoon	Honey	4	0	0	16
5		1 teaspoon	Butter	0	0	4	36
(Medium size banana may be substituted for bread, butter and honey).							
SUPPER or LUNCHEON:							
60	1½	4	Meat substitute: Cottage cheese, or same amount of American, Swiss or other cheese, provided butter is left off; or 50 grams (3 tablespoonsful) butter beans, lima beans or 100 grams (6 tablespoons) English peas	2	13	1	69
150	3 1-3		Cole slaw, carrots, celery, radishes, tomatoes or any raw vegetable	3	1	0	16
		1	Mineral oil mayonnaise	0	0	0	0
45	1½	3	Whole wheat or white bread, or 2 small pieces corn bread or 2 corn muffins	22	5	0	110
210	8	1 glass full	Buttermilk or skimmed milk	10	6	8	136
45	1½	3	Honey	45	0	0	260
100	3 1-3		Baked apple, or medium serving of any fruit (without cream), berries, watermelon, honey dew melon or cantaloupe	12	1	0	52
			Butter	0	0	9	81
Total grams				94	26	18	724
Total food value for the day				300	75	50	1950

ADJUSTING THE HIGH-CARBOHYDRATE LOW-FAT DIETS IN UNDERWEIGHT AND OBESE DIABETICS

If the underweight mild diabetic does not gain weight on Trial Diet Number 4 his carbohydrates may be increased, giving more bread, potatoes and honey until he is getting approximately 400 grams of carbohydrates a day; and the fats may be increased to 90 grams a day by giving an extra pat of butter at each meal, making a total daily food intake of about 2700 calories a day. If the underweight dia-

betic is a laborer, or if he takes a great deal of exercise, his carbohydrates may be increased to 500 grams and fats to 120 grams, thus giving him about 3400 calories a day. When the underweight diabetic has gained to within 10 per cent of the standard weight his diet is decreased by cutting down his bread, potatoes and other carbohydrates and reducing his fats by eliminating one pat of butter at each meal, until the physician has worked out the diabetic's maintenance diet, i.e., the amount of food upon which the individual can carry on

*The estimates of food values in these diets were made by Miss Victoria Jolly, former dietitian of the Highland Avenue Baptist Hospital, Birmingham, now dietitian of the Baroness Erlanger Hospital, Chattanooga, Tennessee. With the wide variety of food allowed these estimates are only approximately correct. With the high carbohydrate-low fat diets there is not the necessity for accuracy in weighing food in grams as in the former low carbohydrate-high fat diets when the ketogenic-anti-ketogenic ratio had to be considered.

his work with comfort and maintain a weight of 5 or 10 pounds under the insurance companies' estimates of the optimal weight for his age and height.

If the diabetic is overweight his carbohydrates are decreased by leaving off a slice of bread at each meal and reducing the amount of potatoes, rice and other starchy foods until his carbohydrate intake is about 200 grams per day, and his fats are reduced by giving one less pat of butter at a meal to about 50 grams a day. He is kept on this low calorie diet until he has decreased in weight until he weighs from 5 to 10 pounds below the standard weight of his height and age. Then his diet is increased to Trial Diet Number 4. This maintenance diet is decreased if there is again the tendency to gain weight.

Rabinowitch insists that on his "high carbohydrate-low calorie" diet the patient should become, and remain 5 to 10 pounds under the normal weight. This he calls "mild under-nutrition" a highly desirable state in promoting the health, efficiency and longevity for the diabetic.

Uneducated diabetics should be given diets consisting of foods that they can get at home estimated in household measures, and if they have stamina and character they may get as

good results in the management of their malady as if they had gram scales and could calculate their own menus. Poverty and ignorance are not insurmountable handicaps for diabetics; but with the irresponsible, self indulged diabetic, whether educated or not, "the path of glory leads but to the grave."

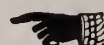
WHEN AND HOW TO USE INSULIN WITH HIGH-CARBOHYDRATE LOW-FAT DIETS

If, after two or three days on Trial Diet Number 1, there is still sugar in the diabetic's urine, he is given from 5 units of insulin twenty minutes before eating two or three times a day; and if in twenty-four hours his urine still contains sugar, the insulin is increased to 8 or 10 units three times a day. If, in another twenty-four hours the sugar has not disappeared from his urine, 15 units are given three times a day. In the severe cases 20 or more units may be given three times a day before the patient's urine becomes sugar free on Trial Diet Number 1 from the use of insulin, the diet is increased to Trial Diet Number 2, and if the sugar returns in the urine, the insulin dosage is increased until the urine is sugar free. Then Trial Diet Number 3 is given and if the sugar reappears in the urine, the insulin is increased by three to five units before

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each meal each day until his urine becomes sugar free.

The diet is increased to Trial Diet Number 4 in the same way, increasing the insulin slowly until the urine is sugar free. After the patient's maintenance diet and his insulin dosage have been worked out as above described, he is kept on the same diet with the same dose of insulin for several weeks, the effort being to keep the urine sugar free without the patient have insulin reactions. If insulin reactions occur, the insulin is reduced or the food increased.

REDUCING OR DISCONTINUING THE INSULIN

We have switched a number of patients from diets of 150 grams of carbohydrate, 60 grams of protein and 120 to 180 grams of fat to 300 grams carbohydrate, 60 grams protein and 50 grams fat, continuing the same dose of insulin they had been using for months or years; and in a few days they would begin to have hypoglycemic reactions, so that the dose of insulin had to be reduced from 25 to 50 per cent. In some of the mild cases requiring from 15 to 30 units of insulin a day, the insulin has been discontinued entirely. In other words on a diet approximately 300 to 350 grams of carbohydrate a day, less insulin was required than when they were getting less than half the amount of carbohydrates and a high fat diet.

Insulin should never be discontinued except on the advice of a physician who has studied the case and one who is qualified to treat the disease. In such cases the insulin dose is gradually decreased and, if the sugar does not reappear in the urine, the insulin may be discontinued permanently. When the insulin is discontinued the patient should be made to realize that he should never overeat, either of carbohydrates or fats; that a food debauch may break his carbohydrate tolerance and he will then have to use insulin again.

Insulin is not habit forming, but it should not be left off suddenly without at the same time reducing the diet in proportion to the amount of insulin used. The patient taking insulin should keep on hand an adequate supply, but if he cannot get insulin he should reduce his food by one-half, or even two-thirds, and leave off the fats altogether, because the principal danger from leaving off the insulin suddenly is acidosis, or even coma. It is not altogether the leaving off of the insulin that is harmful, but the greatest danger lies in continuing the extra food that the diabetic cannot metabolize without using insulin.

THE DIETARY MANAGEMENT OF HYPERINSULINISM

An important consideration in the dietary management of hyperinsulinism, as in diabetes

mellitus (hypoinsulinism), is that each patient had to be dieted to suit his particular nutritional needs. It is necessary to arrange a diet that will nourish the patient properly, providing sufficient amounts of carbohydrates, proteins and fats, with due consideration to its vitamin content. As far as the quality is concerned, it should have a lower carbohydrate content than in diabetes, (90 to 150 grams) with sufficient calories from fats (150 to 250 grams) to maintain normal body weight and physical vigor. The protein content depends on the age and weight of the individual, from 60 to 75 grams for an adult weighing 70 kg. (156 pounds). Frequent feedings every 2 or 3 hours between meals and when awake at night is the sine qua non of success in dieting the hyperinsulinism patient.

Shepherdson found that a patient with hyperinsulinism, after one week on a high carbohydrate diet, had lower blood sugar readings than when the treatment was begun. He then placed his patient on a low-carbohydrate high-fat diet (110 grams carbohydrate, 90 grams protein and 200 grams fat) and a week later his blood sugar readings, fasting and 5 hours after meals, were normal. In a second case of spontaneous hypoglycemia treated by Shepherdson with a low-carbohydrate high-fat diet the symptoms were relieved and the blood sugar readings became within the normal limits.

Weil's experience with his dysinsulin patient who had recurring attacks of convulsions and unconsciousness also proves the fallacy of a diet high in soluble carbohydrate in insulogenic hypoglycemia. He found that a few hours after a high carbohydrate meal the blood sugar reached a much lower level than the patient's fasting blood sugar. One day when he gave his patient 1000 grams of sugar, her blood sugar fell so low that it could not be read with the colorimeter. He was able to maintain normal blood sugar levels by placing his patient on a low carbohydrate, high fat diet with frequent feedings so that she had no convulsions, or other hypoglycemic symptoms in three years. So eminent an authority on carbohydrate metabolism as Woodyatt is of the opinion that the ingestion of large quantities of soluble carbohydrates stimulate the secretion of insulin to such an extent that lower blood sugar levels may be expected on a high carbohydrate diet in the patient with an unstable insulogenic apparatus.

LOW CARBOHYDRATE-HIGH FAT DIETS IN HYPERINSULINISM

An experience in 1923 with our second hyperinsulin patient in a glucose tolerance test convinced us that the soluble carbohydrates stimulate insulogenesis, and since then we have given them only to relieve attacks of hypoglycemia. This patient, who complained of weak-

ness, nervousness, trembling and sweating four and five hours after meals, was given 50 grams of dextrose on a fasting stomach. Six hours later he had the most violent hypoglycemic attack he had ever experienced. On his way home he became so prostrated that he thought he would die, and was barely able to eat his dinner. In a few minutes after eating he felt perfectly normal. We then began using a low carbohydrate diet, consisting largely of 3, 5 and 10 per cent vegetables and fruits, combined with a high proportion of fats, with frequent feedings. I reasoned that the carbohydrates in the form of vegetables and fruits, which must be digested before being absorbed and metabolized, would be released in the blood as glucose in small quantities at a time, and therefore, would not stimulate the secretion of insulin so much as meals made up largely of foods of high carbohydrate content, particularly those containing cane sugar products. Fats, particularly cream, were given with meals and between meals with the idea that they are emptied slowly from the stomach. Therefore, the metabolism of the carbohydrates mixed with fats would be slow compared to the rapid emptying of the stomach and the accelerated

metabolism after the ingestion of carbohydrate meals without fats.

Waters, who reported the first cases of tachycardia associated with spontaneous hypoglycemia (1928), relieved the symptoms of his patients by the use of low carbohydrate, high fat diets, with frequent feedings between meals. He was led to use this type of diet by the experiments of Sweeney who found that after high fat diets blood sugar levels were increased, whereas after a few days on high carbohydrate diets his subjects invariably showed hypoglycemia. Tedstrom, John and many other clinicians employ relatively low carbohydrate high fat diets in the treatment of hyperinsulinism. Tedstrom, however, found it necessary in several cases to increase the carbohydrate content in the diet of his hyperinsulinism patients.

The diet in each case of hyperinsulinism should be calculated to meet the patient's nutritional needs. The adult patient with hyperinsulinism of average height and weight should have about 2250 calories, including from 90 to 150 grams of carbohydrate, from 60 to 75 grams of protein and the remainder in fats (cream and butter), divided into from five to seven feedings a day.

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DIET FOR STANDARD WEIGHT HYPERINSULIN PATIENT

4 ounces of orange juice on arising.

BREAKFAST:

One fruit: $\frac{1}{2}$ grapefruit, orange or orange juice, $\frac{1}{2}$ cantaloupe, baked apple, berries, peaches, or any other fruit in season—without sugar.

One cereal: Small portion of thoroughly cooked oatmeal or other cereal, except bran, and 4 ounces cream, no sugar.

1 egg and 2 or 3 slices of bacon.

Bread: 1 slice whole wheat or white bread, dry toast, or small corn muffin or small piece of corn bread; 1 pat butter.

2 hours after breakfast take 3 ounces orange juice or 4 ounces tomato juice.

3 hours after breakfast 1 glass of milk.

1 hour before luncheon take 3 ounces of orange juice or tomato juice.

DINNER:

Soup: Cold or jellied chicken or beef consommé or tomato juice.

Green vegetables: (1 or 2 varieties). Large serving of green vegetables, (3 to 5 per cent carbohydrates) spinach, or turnip greens, or tender string beans, or cabbage, or cauliflower, broccoli, brussels sprouts, or onions.

1 variety of 10 per cent carbohydrate, as squash, or egg plant, or okra, or carrots, beets or turnips.

All vegetables should be cooked without much grease.

Meat: Small portion of chicken, turkey, mutton, roast beef, tender steak, bacon, thinly sliced boiled ham, or fish—cooked without much grease.

Bread: 1 slice whole wheat or white bread, dry toast, or 1 small muffin, or small piece of corn bread.

Dessert: Peaches, baked apples, or other fruit or berries with cream—no sugar, cantaloupe or other fruit desserts.

3 hours after dinner 1 glass milk.

1 hour before supper 3 ounces orange juice or 4 ounces tomato juice.

LUNCHEON or SUPPER:

One meat substitute: Moderate serving of cottage cheese, American or Swiss cheese, or any cheese.

One uncooked vegetable: Large serving of lettuce, cole slaw, tomatoes, grapefruit, Waldorf salad. Mayonnaise or French dressing, celery or radishes.

May also have cooked green vegetable for supper, and for dinner if desired.

Bread: 1 slice whole wheat or white bread or dry toast; or 1 small muffin, or small piece corn bread; 3 pats butter.

Dessert: Orange, cantaloupe, baked apple and cream, without sugar, or other fresh fruit desserts—without sugar.

2 or 3 hours after supper 1 glass milk.

Orange juice or tomato juice every 1 or 2 hours during the night if awake.

DIETING THE UNDERWEIGHT AND OBESE HYPERINSULIN PATIENT

A number of my patients with hyperinsulinism have been overweight, and other clinicians have observed a number of obese patients with hyperinsulinism. In such cases the fats should be reduced, and a low caloric diet with food

every two hours is indicated. In such cases I prescribe a diet of about 120 grams carbohydrate, given largely in 3, 5 and 10 per cent vegetables and fruits, 60 grams fat and 60 grams protein (1260 calories) divided into six or eight feedings a day. On such a diet the patient's activities should be restricted and the amount of carbohydrates should be increased to 150 to 200 grams, or even more if the patient is losing more than two pounds a week, or if he becomes weak.

In the underweight, asthenic patient with hyperinsulinism, a diet of 90 to 150 grams carbohydrate, from 200 to 300 grams fat and from 60 to 75 grams protein, divided into five or six feedings a day, will keep the sugar at a sufficiently high level to prevent hypoglycemic symptoms, and will build up the patient's general health and state of nutrition.

There seems ample evidence to conclude that the patient with hyperinsulinism is a potential diabetic. A number of our diabetics have given histories of having had hypoglycemic symptoms when they were underweight and several years before the developed symptoms of diabetes. They found that by eating excessively at meals and between meals they could prevent the hypoglycemic symptoms. They then became overweight and later they became glycosuric. It therefore, would seem advisable that hyperinsulin patients should be cautioned about

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keeping up the high fat diet too long and thus becoming obese with the tendency to diabetes.

TEACHING THE HYPERINSULINISM PATIENT HOW TO LIVE

Careful blood sugar studies should be made on each patient for a few days after being placed on a diet for hyperinsulinism, during which time his food should be weighed and measured if possible. It is just as necessary to teach the patient with hyperinsulinism food values and to calculate and arrange the menus suited to his particular case as it is to teach "diabetic arithmetic" to patients with hypoinsulinism (diabete mellitus). The intelligent patient with hyperinsulinism, particularly of the severe type, usually becomes very much interested in "playing the game of dieting" because he has a holy dread of the paroxysms of unconsciousness, with or without convulsions.

While it is best for the hyperinsulinism patient to be taught food values and to weigh and measure their food in grams, we have gotten good results from diets estimated in household measures.

It is essential to impress the patient with hyperinsulinism with the necessity for moderation in all things, particularly physical exercise. Studies on marathon runners by Levine

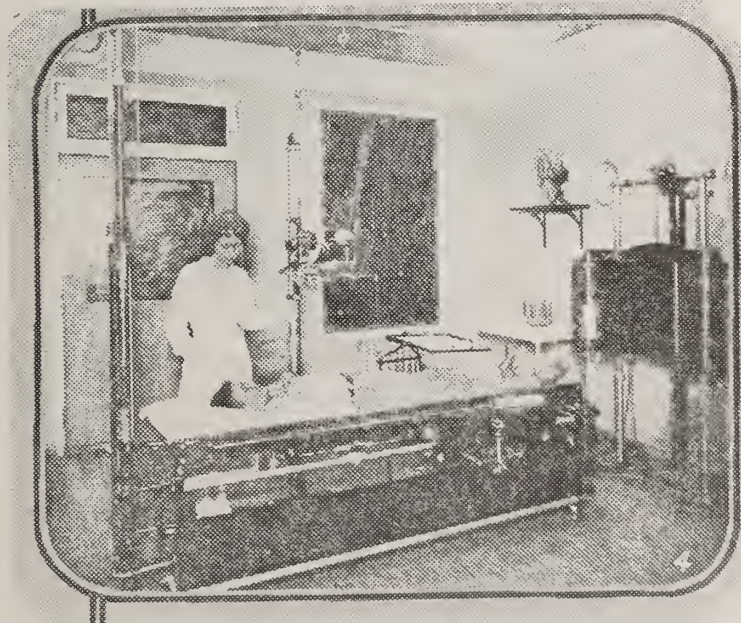
and his associates showed that physical exhaustion produces physiologic hypoglycemia. A number of my patients have observed that their attacks of hunger, weakness, and the like, and even petit mal and grand mal seizures, have occurred most frequently after physical exertion. The patient with hyperinsulinism should be taught all the rules of personal hygiene adapted to his particular needs, just as the diabetic is taught how to live and enjoy health even though he has the handicap of a crippled pancreas.

DISCUSSION

Dr. J. P. Wall (Jackson): The paper that Dr. Harris has brought to us shows something that most of us can envy—the indefatigable time and thought that he had given to work out these various diets. You men older than I am remember Dr. Allen's starvation diet—how the patient was always grumbling. Then they got away from that. And then he tells us this afternoon of higher carbohydrates and low fat diet. I do not know much about this and am reminded of a verse that seems to me most applicable.

An old owl sat in an oak,
The more he saw, the less he spoke;
The less he spoke, the more he heard.
Why can't we be like that wise old bird?

Dr. Allan Eustis (New Orleans, La.): We all



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enjoy Dr. Harris' papers. This is no exception to the rule. It is extremely gratifying to me to see the high carbohydrate diet coming back. I was a real believer in it many years ago and when insulin first came out I took the viewpoint that it was not a question of how much carbohydrate but how much insulin was needed. However, in the early days when insulin was expensive, this worked more or less of a hardship on the patient, and I lost one or more patients because of the fact that they could get along better with another doctor who was giving them a low carbohydrate diet and less insulin.

I must ask Dr. Harris to explain one thing. In my experience a patient who can stand 200 grams of carbohydrate with no sugar in his urine is certainly a very mild type of diabetic. I understood him to say that if they showed sugar they were given this high carbohydrate diet without insulin. Now I believe that we are to take into cognizance that there is a limit to this high carbohydrate diet and I would like to ask him whether he keeps these patients on this diet without insulin even though there is danger of overworking the pancreas.

Dr. Harris (closing): Dr. Eustis and I agree fully that a patient who can take 200 grams of carbohydrate is a mild diabetic. But we take those patients and give them a glucose tolerance test which shows a diabetic curve, and place them on this high carbohydrate and low fat diet and they get along without insulin. Incidentally I refer to an article in the Journal of the American Medical Association of about four weeks ago in which in an experience of over ten years with this diet, it was shown that what is called the insulin efficiency is increased very much on the high carbohydrate diet, and that whereas with a low carbohydrate diet, one unit of insulin would take care of $1\frac{1}{2}$ to 2 grams of carbohydrates, now on the low fat diet, one unit will often take care of 5 or 6 grams of carbohydrate.

The important thing is simply this. It is just as necessary for the patient to begin on the weighed and measured diet as it is in using the low carbohydrate-high fat diet. If anything, I think it is more necessary.

There has been an endeavor with many of us to simplify the diet in diabetes. There are many patients who cannot afford to pay the nine or ten dollars for the gram scale—the mathematical diet. They can learn the diabetic arithmetic and Rabinowitch says that a majority of his patients do not have to weigh and measure their food. He has worked out some simple values which I now show you.

This represents a slice of bread and he gives this to the patient and tells him he can have one or two slices of bread of this thickness

and size. He says that weighs 30 grams but in the scale that we have this would weigh 18 to 20 grams. This is a half slice of bread. These patients cannot have more than three pats of butter a day and this is the size of his pats of butter. Then he gives them a potato of this size; that is about the equivalent of 40 to 45 grams of carbohydrates. Then he gives them a small banana about the equivalent of 40 grams. We have larger bananas than they have—the average banana down here has 75 grams of carbohydrates. And this is the size of the orange and grapefruit he gives them. I think that that is something of an advance. This is the size of the piece of meat—about this thickness and about this size. It must be lean meat, all the fat taken off from it. But you know the measurement of the tablespoon and teaspoon. Rabinowitch has had these made like this; and this is a half teaspoon. Those household measures make it much easier for diabetics. They can afford the scales but cannot afford the time spent in the hospital, and they can learn to weigh and measure their own food.

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Bone Tumors

HENRY G. HILL, M.D.
Memphis, Tenn.

This subject has attracted much attention during the past fifteen years. Prior to 1920, however, the literature was most confusing. Various lesions have been placed in different groups by different observers, making a diagnosis obscure; hence the results recorded are striking for the lack of uniformity. Notably has the benign "Giant Cell Tumor" been placed in the malignant class, thus falsely increasing the percentage of cures of malignant bone lesions. This is probably due to lack of systematic scientific investigation by the combined efforts of the clinician, Roentgenologist, and the pathologist. Realizing this, in 1920 the Registry of Bone Sarcoma for the study of bone tumors was organized. Prior to this no satisfactory classification has been worked out. After a careful study of the material registered, that group has formulated a classification suitable for the clinician as well as the roentgenologist and pathologist. With this as a guide, much of the obscurity of diagnosis is cleared up.

Classification of Bone Tumors, American College of Surgeons (Registry of Bone Sarcoma)

1. Metastatic.
2. Periosteal fibrosarcoma.
3. Osteogenic tumors.
 - A. Benign.
 1. Exostosis.
 2. Osteoma.
 3. Chondroma.
 4. Fibroma.
 - B. Malignant (sarcoma).
 1. Anatomic types.
 - a. Medullary and subperiosteal.
 - b. Periosteal.
 - c. Sclerosing.
 - d. Telangiectatic.
 2. Undifferentiated sarcoma.
4. Inflammatory conditions stimulating tumors.
 1. Osteoperiostitis-traumatic, syphilitic, infectious.
 2. Osteitis fibrosa.
5. Giant cell tumor.
6. Angioma.
 1. Benign.
 2. Malignant (angiosarcoma).
7. Ewing's tumor.
8. Myeloma.

Geshichter and Copeland (loc. cit.) gives the following classification:

1. Tumors related to osteogenesis
 - A. Tumors derived from precartilaginous connective tissue.
 1. Osteochondroma or benign exostosis.

2. Chondroma or benign chondromyxoma.
3. Primary chondromyxosarcoma.
4. Secondary osteogenic sarcoma.
- B. Tumors related to subsequent cartilaginous growth.
 1. Chondroblastic sarcoma.
 2. Osteolytic osteogenic sarcoma.
 3. Bone cyst and osteitis fibrosa.
 4. Benign giant cell tumors.
2. Tumors of non-osseous origin.
 1. Primary lymphoma of bone (endothelial myeloma of Ewing).
 2. Multiple myeloma.
 3. Metastatic carcinoma.
 4. Fibrosarcoma and neurogenic sarcoma.

Meyerding has lightly modified the classification of the Registry, subdividing some of the groups and rearranging them so that at the beginning one finds the benign lesions increasing in severity and malignancy until the final heading represents the most malignant tumors. This modified classification is as follows:

1. Inflammatory lesions simulating bone tumors (Osteoperiostitis).
 - a. Traumatic (Callous, ossifying hematoma).
 - b. Syphilitic.
 - c. Infectious (Nonsuppurative osteitis of Garre, Brodie's abscess, and tuberculosis).
2. Osteitis fibrosa cystica; Cyst.
3. Benign osteogenic tumors.
 - a. Exostosis.
 - b. Osteoma.
 - c. Chondroma.
 - d. Fibroma.
4. Giant cell tumor.
5. Angio-endothelioma.
6. Endothelioma (Ewing tumor).
7. Periosseus fibrosarcoma.
8. Osteogenic sarcoma.
9. Multiple myeloma.
10. Metastatic tumors.

In spite of the untiring efforts of the Sarcoma Registry and individual observers there still remains a certain percentage of early cases in which it is impossible to make an accurate diagnosis without a well performed biopsy; even then there remains an element of doubt in some cases. "Esmark states that he has personally seen 40 cases of bone syphilis diagnosed as sarcoma." The most important differentiation to make is between benignity and malignancy.

The entire thickness of the shaft is involved in osteogenic sarcoma to a greater or less extent, the predominance being located in either the periosteum or medulla or evenly distributed throughout.

One must differentiate from periosteal sarcoma (a) Ossifying periostitis of traumatic, in-

fectious, and syphilitic processes, (b) benign osteogenic tumors such as exostosis and osteoma, and (c) periosteal fibrosarcoma.

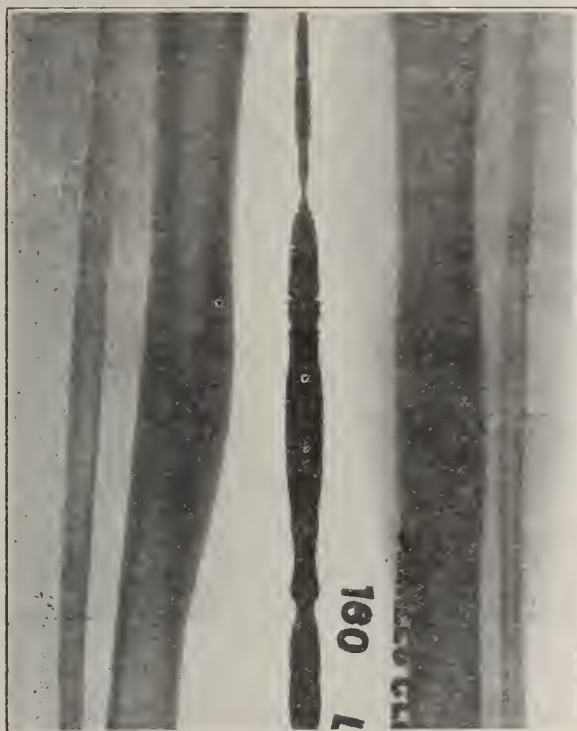


Fig. 1a. Sclerosing non-suppurative osteitis of Garre. G. T., a white boy, age 12 years, called at the Clinic on February 24, 1927, complaining of a painful swelling in the middle third of the left leg.

The onset of the condition was on September 4, 1926, with a dull aching pain in the leg, which gradually increased in intensity until two months later a slight swelling was noticed. No history of injury was elicited. Upon the first visit to the Clinic the pain was constant, being more severe, however, at night, and a definite tumor was observed. Prior to this time the patient was confined to bed for a period of two weeks at the suggestion of his family physician. The results of this rest were quite disappointing, as the pain was more severe than when he was up and on his leg. The past history was negative. There were no symptoms referable to the circulatory, respiratory, gastro-intestinal, genito-urinary or nervous systems.

On physical examination one noted a well developed, fairly well nourished white male. The pupils were equal and reacted to light and accommodated. The conjunctiva were normal in color. The teeth were good, tonsils normal in size, and the throat was not inflamed. The lips were moist and normal in color. The ears were negative to external examination, and not discharging. The cervical lymph nodes were not palpable. In the chest the respiratory motion was free and equal, breath sounds were normal and clear. The apex of the heart was in the fifth interspace about 8 cm. from the mid-sternal line. The cardiac impulse was normal in force and rhythm. No murmurs and no accentuation of the valvular sounds were detected. The abdomen was normal in contour, with no tenderness, rigidity, or palpable masses. The liver, spleen and kidneys were not palpable.

The left testicle was undescended, the left inguinal ring enlarged, but with no protruding hernia. Otherwise the genital organs were negative.

There was a non-pulsating, spindle-like swelling, completely occupying the middle third of the left tibia, about 1 cm. in depth. The skin overlying this area was normal in appearance. The tumor was of bony consistency, slightly tender on deep pressure. The margins were smooth and the soft parts not adherent. The range of motion in ankle and knee was normal and not painful. The inguinal lymph nodes were not palpable.

X-ray examination of the chest was negative; of

the tibia showed a dense mass involving its entire middle third. In the anterior-posterior view the medullary cavity was completely obliterated, while in the lateral view one could see a small amount of marrow along the posterior surface of the cortex. The margins of the tumor were smooth and regular, the periosteum apparently uninvolved. The Wassermann was negative; urinalysis negative; red cell count and hemoglobin normal; white cell count 10,500, with 68 percent polymorphonuclear neutrophils.

The temperature was 100 degrees, and respirations 20.

The diagnosis was sclerosing non-suppurative osteitis of Garre.

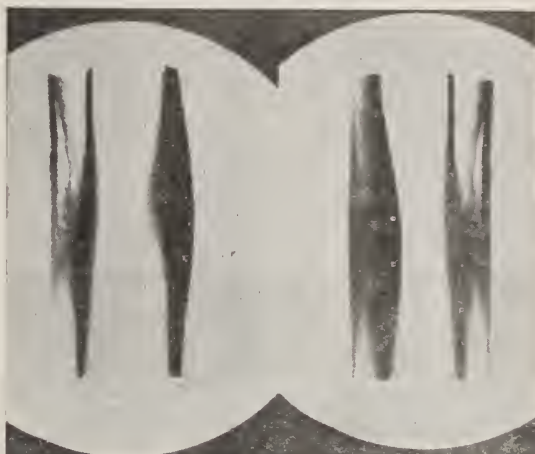


Fig. 1b. X-ray of tumor after resection.

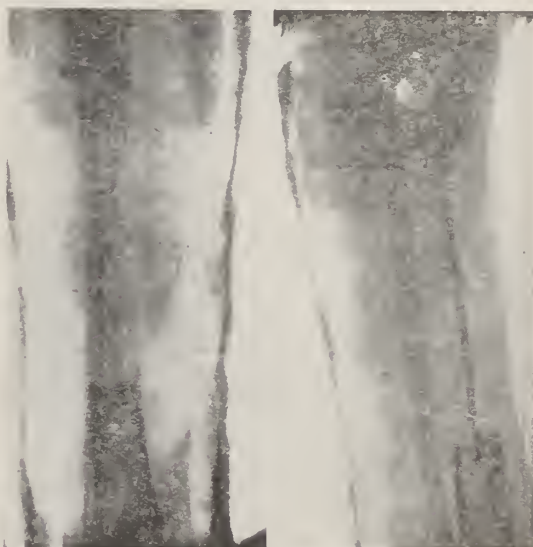


Fig. 1c. Anterior, posterior and lateral X-ray views made through cast six weeks after resection.

A carefully elicited history is of great importance. Naturally a history of injury is not pathognomonic of traumatic periostitis. Indeed, injury often precedes sarcoma or causes to be localized as osteolytic process, but if no injury has been received, traumatic periostitis can be eliminated with considerable certainty. Traumatic periostitis is preceded by a swelling of the soft parts, and X-ray immediately after injury reveals no bony change. Later the periosteum is found elevated from the shaft and finally a subperiosteal deposit of bone is

seen. Sarcoma may be superimposed upon an already infected bone, but if a tumor is found in a patient suffering from osteomyelitis one's first thought would be to associate these two conditions. Other evidence, such as the location of the tumor, X-ray appearance, etc., will help to clear up the diagnosis.



Fig. 1d. X-ray appearance three months after operation. Note regeneration of bone along entire length of graft.



Fig. 1e. X-ray made one year after operation.



Fig. 1f. Photographs of patient one and one-half years after operation.

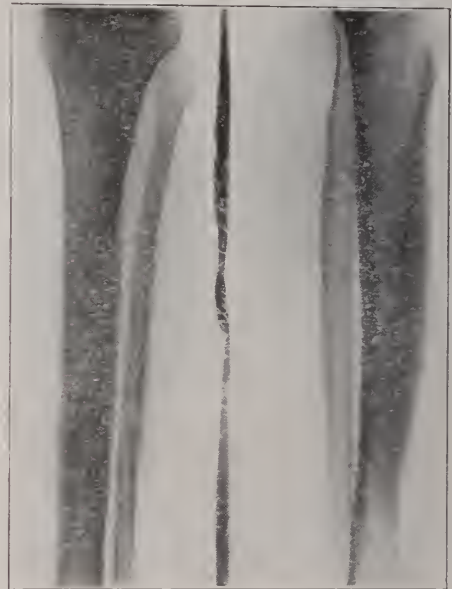


Fig. 2. Syphilitic Osteitis. M. A. P., white, male, 53 yrs. of age came to clinic January, 1934. Chief complaint pain in left leg of an aching character, worse at night. There was an enlargement of middle third of the tibia which the patient noticed first about three months before he came. His general health had been poor for past six months. He denied any knowledge having had syphilis. Blood Wassermann showed plus four reaction, Kahn plus four. Appearance of X-ray films very similar to Fig. 1.

It has been aptly said that syphilis is a good actor, assuming the role of any other disease and playing its part so well that its presence is not suspected. The osseous tissues are not exempt from this impersonator. A correctly made Wassermann shows a four plus reaction in bone syphilis. So, in the presence of a positive Wasserman and other evidence of syphilis, intravenous injections of Salvarsan should be given as a therapeutic test.

Exostosis may be single or multiple. They are found along the cartilaginous margins, are not painful unless causing pressure on surrounding soft parts. The cortex is not involved, as shown by X-ray. Osteoma are slow in growth, definitely circumscribed, cause no pain

until they attain considerable size, and the growth springs from normal bone.

Periosteus fibrosarcoma is a malignant tumor arising from the outer or "fascicular" layer of periosteum, leaving the cortex of the bone intact, while the periosteal osteogenic sarcoma arises from the inner or "canbial" layer of cells, involving also the cortex and usually the medulla. The periosteal fibrosarcoma is composed largely of fibrous tissue lying in the muscles and soft tissues, the periosteum being the extent of bony involvement. It does not possess the same degree of malignancy and presents a different clinical course from the osteogenic tumor.



Fig. 3. Unclassified case of Decalifying Ostetitis (Osteoporosis) with pathological fracture, occurring in patient 73 yrs. of age. Nine years duration. Fragments united slowly. Other bones not involved. General health excellent.



Fig. 4. Infectious periostitis. Two years duration. Child nine years of age. History of suppurative arthritis left elbow and left ankle three years before X-ray film was made.



Fig. 5a. Sclerosing Osteogenic Sarcoma of Tibia. L. F. H., white, male, aged 14 years, was first seen on October 19, 1926, complaining of a painful swelling in the upper third of left lower leg.

The onset was May 10, 1926, when his attention was attracted by a throbbing pain some three inches below his left knee. Three weeks later a small mass was noticed at this point. A physician was consulted, who made a diagnosis of tuberculosis of the tibia, for which heliotherapy and rest were given over a period of six months. The mass gradually increased in size and became progressively more painful. Two weeks prior to his first visit to the Clinic, a second soft swelling appeared about the middle of the middle third of left tibia, which was very painful and exceedingly tender in pressure. There was no history of trauma to the leg. The patient had suffered considerable loss of weight, strength and appetite. He had no symptoms referable to the respiratory, circulatory, gastro-intestinal, genito-urinary or nervous system. Past and family history negative.

Physical examination: A well-developed, fairly well nourished, anemic white male 14 years of age. Pupils equal and react to light and accommodation; conjunctivae pale; teeth good; tonsils normal in size and throat not inflamed; lips show mild pallor; cervical glands not palpable. Chest: Respiratory motion free and equal; breath sounds normal. Apex of heart in fifth interspace about eight cm. from mid-sternal line; cardiac impulse normal in force and rhythm. No murmurs and no accentuation of valvular sounds detected. Abdomen normal in contour; no tenderness, rigidity or masses palpable. Liver, spleen and kidneys not palpable. Genital organs negative to external examination.

There was a fusiform, spindle-like swelling of the upper third of left tibia, about twice the size of the corresponding portion of right tibia. About five cm. below the inferior margin of this swelling was a mass some five or six cm. in diameter and one to two cm. in depth over internal surface of left tibia. Neither mass was pulsating and the skin covering them was normal.

On palpation the upper mass was of ivory-like hardness, slightly tender on pressure; the skin and soft parts were free and not adherent. The lower mass was softer, excruciatingly tender on pressure, about the consistency of contracted muscle, suggestive of coarse fluctuation and apparently springing from the bone. Skin was free and movable over this tumor also. The range of motion in left ankle and knee normal and movement was not painful. In the left inguinal region there was a chain of lymph glands about one to one and one-half cm. in diameter, of bony consistency, not painful or tender.

There was a healed surgical scar over left elbow the results of an arthroplasty for the correction of a bony ankylosis following fracture involving the joint some years ago.

Temperature 99 degrees, pulse 100, respiration 20. X-ray examination of chest was negative. X-ray of left tibia showed a dense tumor involving the upper third of the shaft, completely obliterating the medullary canal, fusing with the cortex and periosteum, so that normal bone and tumor could not be differentiated. In the middle third of the tibia a subperiosteal thickening was noted at the site of the lower mass. Wasserman, negative. Urinalysis, negative. Red cell count and hemoglobin showed anemia.

Diagnosis: Sclerosing osteogenic sarcoma of tibia. He was operated upon on October 20, at which time tumor was removed and sent to the laboratory for the left inguinal lymph gland and a section of the tibia revealed a periosteal growth; frozen section diagnosis. The report was: "A biopsy from the left characteristic appearance of malignancy. Inguinal lymph gland showed inflammatory hyperplasia and

definite calcareous deposits which are the result of a metastatic osteogenic growth. Microscopic Diagnosis: Osteogenic sarcoma of tibia with metastasis to inguinal glands".

The stump healed by first intention. Since the patient's appetite has become excellent, he has regained his strength, and there has been an increase of twenty pounds in weight. His color has returned to normal, and he states that he does not suffer any pain or discomfort. An X-ray examination of the stump made two months after amputation shows no evidence of local recurrence.

During the period of convalescence Coley's serum was given daily. Initial dose 1-10 minims, gradually increasing to 15 minims, until 25 c. c. of the serum had been given. Reaction followed each injection, temperature rising from 99.5 to 101 degrees, with an occasional rigor. Patient also received X-ray treatment.

Patient died 14 months after operation with sarcoma of lung, also recurrence in stump.

Sarcoma is practically always associated with pain of varying intensity, while the benign periosteal lesions are not necessarily painful unless the size and location produces nerve pressure.



Fig. 5b. October 19, 1926. No evidence of metastasis

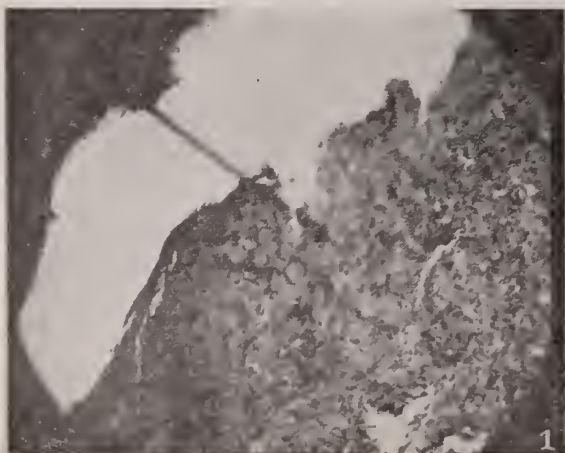


Fig 5c. (1) Section inguinal lymph gland showing inflammatory hyperplasia and definite calcareous deposits. (2) Biopsy from tibial growth. Note spindle and polyhedral cells characteristic of malignancy.

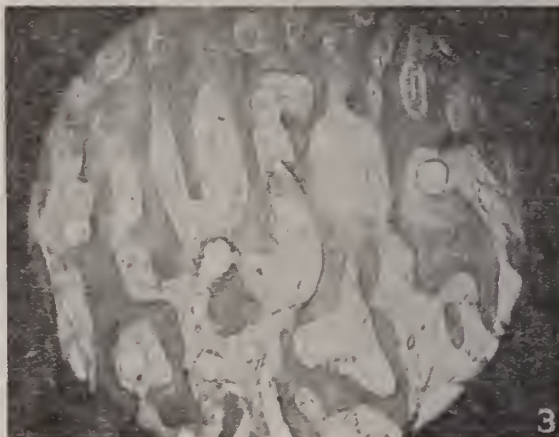


Fig 5d. (3) Shows possible error if biopsy is not properly performed. The appearance of this section is that of normal tissue, while (4) section from the same tumor is characteristic of malignancy.

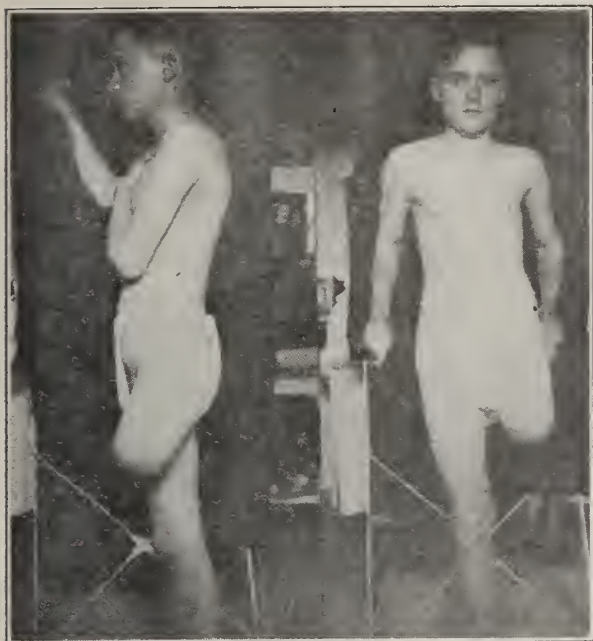


Fig. 5e. Photograph of patient two months after amputation. Weight had increased twenty pounds; color good.



Fig. 6 Benign osteo-chondroma springing from lesser trochanter of right femur. Patient J. E. D. Occupation, Circuit Court judge, 59 years of age. Came to Clinic June, 1929, walking with right thigh abducted using walking cane. Patient gave a history of having noticed a swelling in inner side of thigh first about twenty years before. He stated that he had never consulted a physician in regard to this condition and would not have come to me had it not been that he was able to ride horseback and it would be essential to do so the following spring in order to make a race for re-election.

On examination there was a non-pulsating tumor the size of a coconut on inner aspect of right thigh. The skin overlying the tumor as well as skin on opposite thigh and buttock was excoriated. On palpation the tumor felt firm and smooth, there was no tenderness and deep pressure. Clinical and roentgenological diagnosis, Osteo-chondroma benign. Sections taken from all parts of the growth after removal for biopsy confirmed diagnosis.

X-ray examination is of great importance. a well detailed roentgenogram, the interpretation of which should be undertaken only by one familiar with the classification of bone tumors, is essential. Evidence of malignant disease is usually found through the entire thick-

ness of the shaft. The margins are not as clear-cut as in benign conditions, and later the soft parts are seen to be involved. Cartilage offers probably the most resistant barrier to sarcoma. The epiphysis is rarely invaded.

At operation gross appearance of the tissues furnish some aid in diagnosis. The soft parts surrounding osteogenic sarcoma are tainted with the disease to a varying extent. The periosteum is densely adherent, stripping from the cortex with great difficulty.

Other points to be taken into consideration are: (a) Location of the tumor. Sarcoma practically always attacks the ends of the long bones; indeed, a tumor located in the middle third is strong evidence against primary malignancy. (b) The age of the patient; sarcoma is a disease of the young, reaching its maximum about the 30th year, rapidly decreasing with each succeeding decade until, in later life, it is not a common condition. (c) The patient's general condition should be noted-anaemia, cachexia, and other systemic symptoms will appear as malignant disease progresses. These points are not only true in the periosteal variety of osteogenic sarcoma, but are of equal importance in central and diffuse lesions.

For the purpose of facilitating the ease with which the differentiation between central lesions can be made, they may be grouped according to age and location in the following four classes: (1) In the distal third or epiphyseal ends of the shaft in persons under eighteen years of age. (2) In the middle third or diaphysis of persons under eighteen. (3) and (4) In the epiphyseal ends and diaphysis of persons over eighteen.

In the epiphysis of the younger individual central lesions are few. They are giant cell tumors in most instances, but may be tuberculosis occurring as a single caseous area or abscess. Central sarcoma is also occasionally found. In the adult the giant cell tumor also predominated with an occasional bone cyst, chondroma, myxoma, metastatic tumor, sarcoma, tuberculoma, or multiple myeloma.

One encounters on the shaft of a child the benign bone cyst most frequently, occasionally multiple myeloma. In the adult, chondroma, myxoma, central sarcoma, metastatic tumor, myeloma, and occasionally a healed bone cyst must be considered. Giant cell tumors have been found in this location. Brodie's abscess is an uncommon central lesion which may be found in the epiphyseal ends or shaft in either the child or adult.

Much could be written about the Giant cell tumor alone; however, in most instances the diagnosis is fairly clear. This tumor is usually found in the epiphyseal ends of the bone of an adult, contained in well defined bone shell which remains intact until late in the disease. X-ray appearance is very characteristic. It usually

casts a bulky spherical shadow showing a multicystic appearance as a result of osseous trabeculation in the periphery. The shaft of bone is absent and it appears as though cortex is blown out from within the medullary cavity so as to form the thin bone shell which sharply limits the tumor. The surrounding soft tissues are definitely uninvolved. Beyond the tumor the cortex and periosteum are entirely unaffected and no periosteal lipping is seen. The giant cell tumor is a slowly growing benign lesion, causing little or no pain, but has a marked tendency to local recurrence after operation unless thoroughly removed by curettage and the cavity properly treated with actual and chemical cautery. At operation one finds the tumor to be filled with tissue resembling granulations, showing on section the characteristic giant cells.

The subject of tuberculosis of the bones and joints cannot be considered here. It suffices to say that if a central cyst is noted in bone with other characteristic symptoms of joint tuberculosis a caseous abscess must be considered.



Fig. 7a. Osteitis fibrosa cystica. Lower and middle third, left thigh, with pathological fracture. Patient, male, 37 years of age, was brought to the Clinic Oct. 3, 1933, six and one half months after sustaining a fracture of the thigh when he attempted to get on a horse. Gave a history of rheumatism in the thigh and leg for a year preceding the injury. Leg amputated Nov. 24, 1933, on account of extensive bone destruction and functional damage. Careful pathological study made, many sections taken for biopsy. Pathological Roentgenological, and surgical diagnosis, Osteitis fibrosa cystica. Patient returned to Clinic April 13, 1935. X-ray of stump showed Osteolytic Sarcoma. Hip joint disarticulation was performed. Coley's serum and X-ray treatments prescribed.



Fig. 7b. Osteolytic sarcoma recurring in stump.

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Fig. 7c. Macroscopic specimen.

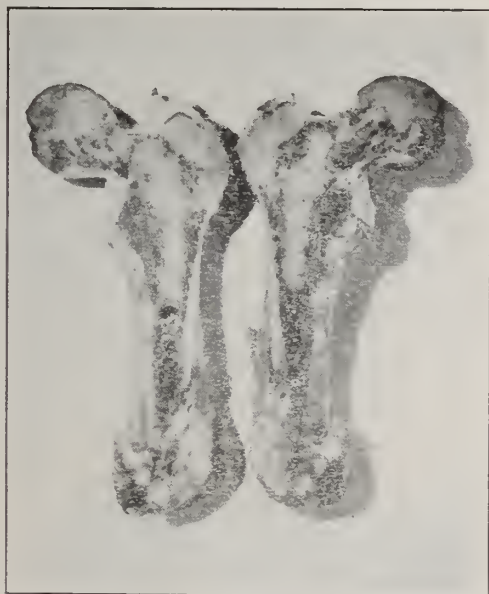


Fig. 7d. Bisected specimen after denuding soft tissue.

The history and clinical symptoms of central sarcoma are not unlike those of the periosteal type. X-ray discloses the presence of the disease in the cortex and periosteum as well as in the medulla. In this type of osteogenic sarcoma one sees the so-called telangiectatic variety. This tumor is exceedingly rich in blood supply. The vessels may be so numerous as to produce palpable pulsation. It is from this type of sarcoma that the *Angioendothelioma* must be differentiated, which is a very rare condition, presenting no significant diagnostic features in the history and clinical appearance. The same obscurity is noted in the X-ray findings. The tumor occurs in the young and the old, may be solitary or multiple, destructive or productive. The diagnosis rests on the histological structure—even here there are numerous pitfalls which make the diagnosis difficult—

and when one considers the hazards of cutting into a malignant tumor the wisdom of exploratory incision is doubted. There is no method known to influence the course of the tumor or to prevent metastases after radical surgery.

Chondroma and myxoma may be considered together, the latter being a degenerate stage of the former. They are non-malignant "per se," but readily undergo sarcomatous changes when subjected to trauma or incomplete operative procedure. The history reveals pain in the affected part often before a tumor is noted. It is usually found in the adult. X-ray shows diffuse swelling, bone shell not clear-cut, presenting a mottled appearance of equal density throughout.

Metastatic tumors may be single or multiple. History or primary carcinoma can usually be elicited. By the time bone metastasis has taken place systemic symptoms most likely have appeared. These tumors are frequently quite painful. X-ray findings confirm the diagnosis.

Multiple myeloma occurs late in life, as a rule after the 40th year. Anaemia and other blood dyscrasias are noted due to the destruction of a large amount of the blood forming elements in the bone marrow. In the Roentgenogram myeloma reveals well outlined, definitely circumscribed areas of diminished density; at different stages of the disease, these areas may be large and single or small and multiple in the same bone, spreading all along the medullary cavity. The bone is slightly expanded by the individual nodules so that the extremely thinned cortex is irregularly wavy and not of uniform thickness. Like all other

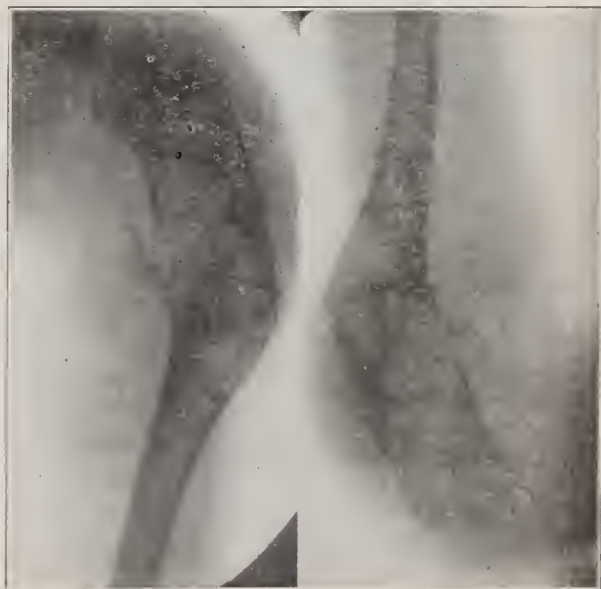


Fig. 8. Giant cell tumor with pathological fracture, three or four years' duration. Note lobulation and trabeculae with thin expanded bone shell.

malignant diseases pain is a prominent symptom, appearing later, however, than in osteogenic sarcoma.

The benign bone cyst or osteitis fibrosa cystica is the most common central lesion in the shaft of the child. It is not associated with pain, often being discovered in an X-ray taken for some other condition. Frequently pathological fracture is the first symptom, or there may be visible swelling of the part involved. In the X-ray one notes a single well defined cyst encapsulated in a clear-cut bone shell, continuous above and below with normal cortex. These cysts are sometimes multiple, often found in the same location of the corresponding bone on



Fig. 11. Benign Osteoma, arising from outer margin of tibia, encroaching upon fibula. Leg painful for last six months, probably from pressure on peroneal nerve. General condition excellent.



Fig. 9. Ewing's Sarcoma. Roentgenogram made six months after onset of symptoms. Note cortical and periosteal involvement.



Fig. 12. Syphilitic osteitis involving metatarsal and phalangeal bones. Entire foot very much enlarged, not painful. Width of foot parallel to metatarsal arch nine inches.



Fig. 10. Fibrosarcoma involving shaft of the humerus.



Fig. 13. Pathological amputation of shaft of third metatarsal bone due to bone cyst.



Fig. 14. Bone cyst in second phalanx of index finger.



Fig 15. Benign Osteo-chondroma springing from olecranon process.

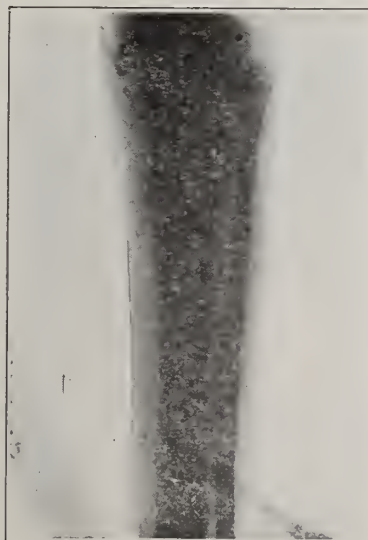


Fig 16. Low grade osteomyelitis resembling Ewing tumor.



Fig. 17. Giant cell tumor of head of tibia.

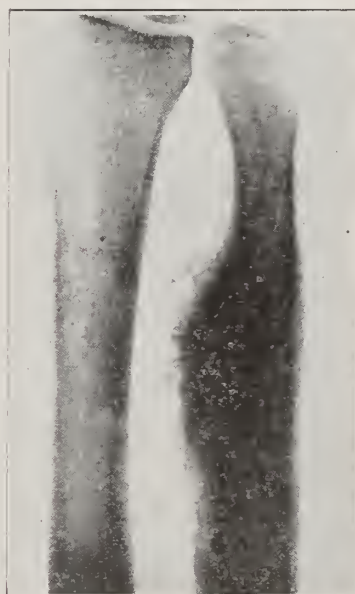


Fig. 18. Congenital syphilitic osteitis.



Fig. 19. Chondromyxoma of second phalanx. Middle toe removed seven years ago. No recurrence.

opposite side. At operation the contents of the bone shell varies from a clear colorless to a cloudy dark brown fluid, sometimes found in a fibrous tissue matrix. They are easily cured

by curettage. A cure may occur from spontaneous ossification.



Fig. 20. (a) Benign Traumatic Periostitis, fibula. (b) Periosteal Sarcoma lower third humerus.



Fig. 24. (a) Osteitis Fibrosa Cystica. Pathological fracture first symptom. (b) Chondroma shaft humerus (preoperative diagnosis, Osteogenic Sarcoma; arm amputated unnecessarily). (c) Metastatic Carcinoma shaft of femur.

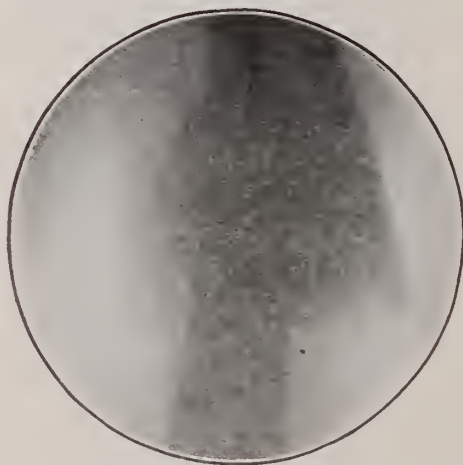


Fig. 21. Fracture of femur. 1915—X-ray made in 1916, showing vicious union with excessive callous. Leg amputated in 1924 (probably unnecessarily), after diagnosis of sarcoma had been made. No biopsy performed.



Fig. 25. Bone cyst of humerus occurring in a patient with multiple lesions.



Fig. 22. Typical Giant cell tumor, lower end of ulna.



Fig. 23. Benign traumatic osteoma occurring in shaft of femur.



Fig. 26. Chondro-sarcoma of knee joint.



Fig. 27. Osteogenic Sarcoma of lower end of shaft of the femur.



Fig. 28. Osteogenic Sarcoma of the ischium.

The radiographic appearance of Brodie's abscess does not differ markedly from the bone cyst. The diagnosis is made certain, however, at operation. The bone shell in Brodie's abscess is filled with sterile pus.

Diagnosis of diffuse sarcoma as a rule is made with relative ease. These lesions may be subdivided into (a) sclerosing, (b) osteoporosis. The former condition may be confused with the sclerosis non-suppurative osteitis of Garre. In this condition there is usually considerable intra-medullary pressure, causing pain to be a prominent symptom, as is the case in malignancy. It is not confined to the ends of the

bone, but may be seen completely filling the middle third. In the advanced case the entire marrow canal may be replaced by a deposit of compact bone. The one differential feature, however, is the lack of periosteal involvement, as demonstrated by the Roentgenogram. At operation the soft parts and periosteum are found to be normal; the latter is not adherent, but strips from the cortex with ease. Osteoporosis of non-use and myeloma must be differentiated from the rarefying type of sarcoma.

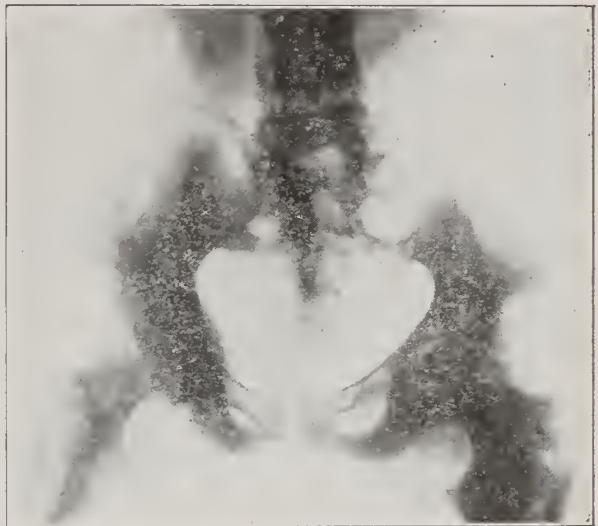


Fig. 29. Metastatic Carcinoma of the pelvis.



Fig. 30. X-ray, lateral view, bones above and below elbow joint, case of Paget's Disease (Osteitis Deformans). All bones of body were involved to some extent. Duration, 50 years. This case is of interest because it appears to be a congenital disease and not one of middle age. Patient states definitely that the increased size of bones has been present since he can first remember. This fact supports the theory of Hirsch that this and similar conditions are due to congenital weakness of mesenchymatous tissue rather than due to a chronic infection which has often been advanced as an etiological factor in Paget's Disease.

There is no history of non-use in the malignancy. In the X-ray plate the decreased density is more noticeable in the shaft, in contradiction to the generalized decalcification of bone which occurs in the benign condition. The myeloma will usually show multiplicity, and, if advanced to this stage, diagnosis is not difficult.

All conditions introduced in the foregoing classification have been mentioned in this discussion except the endothelioma or Ewing's tumor. The most common condition confused with the tumor is osteomyelitis—a differentiation is often quite difficult. The history of Ewing's tumor reveals trauma to play an important part. The symptoms are intermittent, becoming more severe with each attack. Early X-ray, as in osteomyelitis, presents an apparently normal bone. At operation no pus is found in the medullary cavity. Under such conditions well selected sections should be taken for biopsy. When considered along with clinical and Roentgenological findings, will establish the diagnosis.

I merely wish to mention a few important points in the treatment of bone tumors. First, in regard to biopsy: This should be undertaken only by a surgeon familiar with the hazards of cutting into a malignant tumor. Its virulence is likely to be increased, and rapid dissemination of the tumor is frequently noted following careless operations. The section must be selected near the edge of the growth so that the pathologist may have some normal as well as diseased tissue for examination. Specimens for biopsy should be removed with an instrument made especially for the purpose or by aspiration in most instances.

The clinical and radiological picture in many cases furnishes a better conception of the diagnostic problem than can be obtained from a biopsy. The rate of growth, extent of the disease, and a carefully taken history together with a well-detailed Roentgenogram indicate the general nature and grade of malignancy of the process.

Ewing mentions eight common reasons for errors in histological diagnosis of bone tumors. They are as follows:

1. "In the walls of many benign cystic giant cell tumors there is a zone of reactive tissue which closely resembles osteogenic sarcoma, and an erroneous diagnosis may be made when this tissue is encountered.

2. In the central portions of many giant cell tumors, or in large areas, the tissue resembles medullary spindle myosarcoma, giant cells are absent, and the impression of a malignant tumor may be obtained.

3. On the outer portions of some slowly growing ossifying sarcomas the tissue resembles the normal bone of myositis ossificans, and gives a false impression of a benign tumor.

4. In the central portions of some periosteal fibrosarcomas the cells may be atrophic and the tissue suggests a benign fibroma, whereas the outer portions are active and malignant.

5. Many bone sarcomas are associated with chronic suppurative and non-suppurative osteomyelitis, and when the pathologist encounters foci of pus, he is often puzzled to decide whether the surrounding cellular tissue is degenerating tumor or degenerating inflammatory tissue. This situation is quite common in the case of children.

6. In many cases of endothelioma of bone, osteomyelitis precedes or accompanies the tumor process. The discovery of pus in the biopsy has often led to a positive and erroneous diagnosis in these cases.

7. Chronic granulomatous processes in bone, Hodgkin's disease, syphilis and tuberculosis produce structural changes which are often extremely difficult to distinguish from sarcoma. Many a limb has been sacrificed because of errors of this class.

8. Many cases of acute myositis ossificans present a structure which is very difficult to differentiate from sarcoma, and in some cases it is impossible to make the distinction. Here the clinical radiological evidence is superior. This is a notorious source of unnecessary amputations."

The treatment of benign conditions limits itself to the problem of choosing a method of complete removal, which will result in the least amount of functional damage.

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The interests and aspirations of Dr. W. A. Dearman towards a medical career had its inception in the lifework of his father, Dr. J. J. Dearman, who died May 14, 1903, at Purvis, Mississippi. He received his medical education and degree at Tulane University, graduating in 1906. He has taken postgraduate work throughout the years, attending the large clinics within the United States.

Dr. Dearman has been president a number of times of his local medical society, and is a past-president of the Mississippi State Medical Association. He is also a Fellow of the American College of Physicians. He is now, and has been for a number of years, a consultant of internal medicine at the Veterans' Facility in Gulfport, Miss. He is a member of the various medical societies, including local,

state, Southern Medical and American Medical Association. Dr. Dearman has been actively engaged in the practice of medicine on the Mississippi Coast for the past twenty-four years.

He was appointed to membership on the Mississippi State Board of Health in 1930.

William R. Wright, D.D.S., Jackson, is the dental member of the State Board of Health from the State-at-large and has served for ten years. He graduated from the Atlanta Dental College in 1897 and was president of his class. In 1898 he graduated from the John Myer Postgraduate School of New York and was an instructor in that school for some time. Dr. Wright served for four years as secretary of the Mississippi State Board of Dental Examiners, and is an ex-president of the Mississippi State Dental Association. He was vice-president of the American Dental Association. He served as chairman of the Committee on Dental Health of the American Dental Association for five years. He is now a member of the Association's Commission on Research and has served in this capacity for twelve years. Dr. Wright is a member of the Psi Omega, dental fraternity. Also, he is a Fellow of the American College of Dentistry.

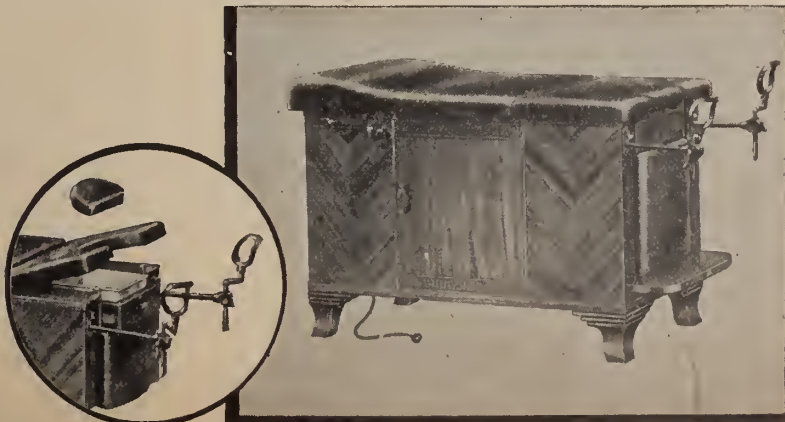
W. H. Banks, M.D., Philadelphia, is a graduate of Memphis Hospital Medical College, 1909. Has been a member of organized medicine since beginning the practice of medicine, and has served as Secretary of his local medical society for five years, and once was elected its President. Many times Dr. Banks was selected as delegate to the State Medical Association. He is now Vice-President of the East Mississippi Medical Society. Dr. Banks was appointed to membership on the State Board of Health in 1934.

Sam E. Eason, M.D., oldest member of the

State Board of Health in years of service, was graduated from the Memphis Hospital Medical College in 1905. He has been a member of organized medicine since 1907. In May, 1907, Dr. Eason was appointed Union County Health Officer by Dr. P. W. Rowland, and he served until he was appointed as a member of the State Board of Health in 1912. Twice Dr. Eason has been elected Vice-President of the State Medical Association. For five years he served the Association as Councilor of the Third District. He has been President of the Tippah-Union Medical Society and President of the North Mississippi Medical Society; for one year he was secretary of the North Mississippi Medical Society. In 1931-32 Dr. Eason had four months' graduate study at Tulane Graduate School of Medicine. He has been at his present location, New Albany, for thirty years.

L. B. Austin, M.D., son of Dr. J. S. Austin of Vicksburg (a member of the Mississippi Legislature), was educated in the schools of Warren County, the Louisiana State University, and received his Medical Degree from Tulane University. For three years, he was house surgeon of the State Charity Hospital, Vicksburg beginning in 1908. After this, Dr. Austin secured partnership with Dr. H. L. Sutherland, of Rosedale, and has been practicing medicine there since. In 1930, he was elected President of the Clarksdale and Six-Counties Medical Society. In 1932, he did postgraduate work at the Ear, Eye, Nose, and Throat Hospital at Tulane University. Dr. Austin was first appointed as a member of the state Board of Health in 1924 and was reappointed in 1932 for a six-year term.

B. J. Shaw, M.D., Slate Spring, Miss., was appointed to membership on the State Board of Health in 1928. He is a graduate of Memphis Hospital Medical College, 1904, and has practiced medicine in Calhoun County since that



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time. From 1912 until the consolidation of registration districts in 1935, Dr. Shaw was local registrar of births and deaths. He has been actively identified with organized medicine in his county and State since beginning the practice of medicine and did post graduate work at Tulane University. For one year he served as Vice-President of the Northeast Mississippi Thirteen Counties Medical Society.

W. H. Frizell, M.D., Brookhaven, the son of a physician, was elected to membership on the State Board of Health in 1930. Prior to this, he served as Lincoln County Health Officer for twenty years. In 1928-1929 he was President of the State Medical Association, and for years prior to his election as President and since, he has served as a member and since 1932 as Secretary of the Council of the Association. Dr. Frizell for sixteen years was secretary of the Tri-County Medical Society, and was its president for one year. In the 1932 copy of *Who's Who in Government*, there is a sketch of Dr. Frizell.

James Walton Lipscomb, B.S., M.D., of Columbus, attended old Franklin Academy, first free white public school in Mississippi. He was graduated from A. & M. College in 1888 and from Vanderbilt Medical College in 1890. He

located in the Mississippi Delta at Swan Lake and lived there until 1899 when he moved to Columbus. He is the third generation of Drs Lipscomb in Columbus. His grandfather was Dabney Lipscomb, and his father was Dr. Wm. Lowndes Lipscomb—the three generations having rounded out 104 years of continuous practice of medicine in Columbus. Dr. Jas. W. Lipscomb still in active practice and has a son now practicing. He has done postgraduate work in New Orleans, Baltimore, Chicago, and at the Polyclinic in New York City. For twelve years, he was county health officer; he was Vice-President of the Mississippi State Medical and of his County Society. Dr. Lipscomb has been a member of the State Board of Health for the past twelve years and is President of the Board.

John Darrington, M.D., received a B.S. degree from Mississippi A. & M. College, and his Medical Degree in 1892, at Tulane University Medical School. Dr. Darrington is the son of a physician and was born in Wilkinson County; for the past forty-five years he has been in Yazoo County. He had postgraduate study at the New York School of Medicine. Dr. Darrington has served as President of the Tri-State Medical Association and has been actively identified with the Mississippi State Medical Asso-



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ciation. In 1927-28, he was President of the State Medical Association. Dr. Darrington is a Fellow of the American College of Surgeons. He has been a member of the State Board of Health since 1930.

Felix J. Underwood, M.D., secretary and executive officer of the State Board of Health since 1924 when he succeeded Dr. W. S. Leathers, was graduated from the Memphis Hospital Medical College in 1908. For seven years he practiced medicine in Monroe County before his appointment as full-time health officer of that county. He served as secretary of the Northeast Mississippi Thirteen Counties Medical Society for thirteen years, ending in 1925. From 1912-1919, he was a member of the Council of the State Medical Association. In 1919, he was President of the State Medical Association. Since 1924, he has been a member of the State Medical Association's Committee on Public Policy and Legislation. For three years prior to his being selected as Executive Officer, Dr. Underwood was Director of Child Hygiene activities for the State Board of Health. For six years, he was Councilor for Mississippi to the Southern Medical Association, and in 1930-31, he was President of this Association. He now serves as a member of the Board of Trustees of the Southern Medical Association. Since 1931, he has been President of the State Board of Examiners of Nurses. He is on numerous State Boards such as the State Tuberculosis Association, the State Commission for the Blind, the State Department of Emergency Relief, and is President of the State Social Workers Conference. Dr. Underwood is a Fellow in and is Mississippi Referee for the American Public Health Association and is a member of the Governing Council of that Association. He has served as chairman of the National Malaria Committee. Since 1927, Dr. Underwood has been a Fellow of the American College of Physicians. At the present time, he is serving as Public Advisor to President Roosevelt's So-

cial Security Committee, and as a member of the Commonwealth Fund's Advisory Committee on Public Health. For the past three years he has been delegate from the State Medical Association to the American Medical Association.

On January 14, 1936, Governor Conner named the following new members:

Dr. L. W. Brock, McComb succeeding Dr. W. H. Frizell. Dr. John B Howell, Canton, succeeding Dr. John Darrington. Dr. H. L. McKinnon, Hattiesburg, succeeding Dr. W. A. Dearman.

Invitation to National Tuberculosis Association

Mississippi doctors, nurses and others interested are invited to attend the annual meeting of National Tuberculosis Association to be held in New Orleans April 22 to 25, according to information from Logan H. McLean, executive secretary of Mississippi Tuberculosis Association, Sanatorium, Miss.

Dr. Henry Boswell, of the State Tuberculosis Sanatorium, joins in urging attendance, pointing out that the rare educational opportunity brought by one of these meetings may not be so conveniently offered again for many years. Dr. Boswell was president of the National organization in 1930-31 and is now a member of its board of directors.

The meeting will be held in four great sections, viz; Clinical, Pathological, Sociological and Administrative. No registration fee is charged, no admittance card required, and membership in the Association is not necessary. It is requested that this notice be read at all meetings of Medical Societies.

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Who's Who In Mississippi Medicine



GILES SANFORD BRYAN, M.D.

One of the greatest needs of the world today is to have more men who think, live, and work as Dr. Giles Sanford Bryan.

He was born in Aberdeen, Monroe County, and received his literary education in the common schools of that county and at the University of Mississippi. After teaching school for a time, he entered upon the study of medicine and received his Medical Degree at the University of Tennessee Medical School, which was then the Memphis Hospital Medical College.

After graduating and doing postgraduate work, Dr. Bryan located at Amory and has practiced medicine and surgery there with an unusual degree of success from that time until now. From the beginning, he took an interest, unusual for a busy professional man, in the civic affairs of the city, county, and state.

From 1912 through 1914, Dr. Bryan served with distinction as President of the Mississippi State Board of Health, and in that capacity he rendered outstanding service in the beginning and development of the present public health program of the State. It was due largely to the work of Dr. Bryan and his associates on the Board that the present well-rounded program of public health in Mississippi was made possible. As pioneers in public health, they laid a lasting foundation with their successful educational and demonstrational work in preventive medicine.

The writer owes a debt of gratitude to Dr. Bryan that can never be repaid. From the beginning as a medical student, I have had

the good fortune of having the friendship of this great, good, and useful man, and on many occasions in private practice and later in public health work, I have benefited by his counsel and, as for that, actual assistance. As I write these lines, my heart grows tender at the memory of the speech he made nominating me for President of the State Medical Association at Camp Shelby, near Hattiesburg, in 1919. I often think about that speech with its emotions and effectiveness and regret that a copy of it was not preserved for me.

The Mississippi State Medical Association honored itself in 1926 when it chose Dr. Bryan as its President. More than any other man or group of men, he deserves credit for the building of the great Northeast Mississippi Thirteen Counties Medical Society, and on his sick bed at his home in Amory now, doubtless he is thinking about and planning for the next meeting of his beloved society. God grant that he may be able to attend and take part in this meeting to be held at Starkville on the third Tuesday in March and many meetings thereafter. As a medical writer and on the floor at medical meetings, he never fails to command a respectful hearing.

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period of preparation—from twenty to forty, the period of struggle—from forty to sixty, the period of victory—and after sixty, rest. No fourth period for Dr. Bryan—he has been just as active in mind and body during the past several years as he was at forty. He has continued in active service and delights in rendering a diagnostic and therapeutic service to his clientele that is unexcelled in the medical centers of the country.

Of all the men who figure in the medical life of Mississippi and the South, no one in my judgment is more versatile, or more appreciated and beloved by the profession and the people alike, than Dr. Giles Sanford Bryan. Possessing the higher kind of talent that is fitly entitled to be called genius he has adorned and dignified every position he has held.

Books For Medical Library

Several days ago a prominent physician of our state volunteered the suggestion that he has many prized and valuable medical books he would be glad to contribute to our University Medical School library if he could be assured they would be cared for and protected. This gave me an idea that we may have many more physicians in the state who have books they would be glad to contribute to a worthy cause.

I have told several physicians of this offer and each one made a statement that he would be glad to send us some books he is not using.

We have a fair library nucleus, and we receive regularly 52 current periodicals. Our library has recently been moved into our new Hospital-Medical School building, on the same floor with some of the laboratories. All the books are catalogued and are taken care of by an all-time trained librarian who keeps the library and reading room open for the students, faculty and other physicians fifty-five hours weekly. Students and faculty are using these facilities to great advantage. Students are given assignments that require library investigation.

While we have many modern works, we need more, and would welcome any and all contributions our friends might wish to make—whether old books, rare works, or recent publications. We would write on the fly leaf of each book by whom it was contributed.

If anyone would like to contribute, realizing that the books will have splendid care, and will serve a great purpose in helping our students now and in generations to come, I should be glad for him to write me at once the approximate number of volumes he could donate.

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A Practical Consideration of Allergy

WILLIAM CALVERT CHANEY,
M.D., M.S. in Med., F.A.C.P.
Memphis, Tenn.

I am sure all of us can recall spending hours trying to solve some difficult problem in arithmetic which became very simple when we applied to it the principles of algebra. Allergy offers a new and simple approach to many medical problems which heretofore have been difficult or even impossible to solve.

The term "Allergy" was introduced by von Pirquet in 1906 to denote: "a state of exaggerated susceptibility to various foreign substances or physical agents that are harmless to the great majority of ordinary normal individuals." (Bray)

In the latter part of the 19th century the medical profession was interested in the phe-

nomena of anaphylaxis. The classical experiment was the injection of a minute amount of horse serum into a guinea pig. A second injection, 9 to 14 days after the first, usually resulted in sudden death of the animal. As a rule the guinea pig died of asphyxia due to a tetanic contraction of the bronchial musculature. Interest in this anaphylactic reaction led in 1905 to the suggestion that hay fever was a related condition. In 1910 similar observations were made in regard to asthma. Since then the subject of Allergy has grown with such great rapidity that it has spread into almost every specialty of medicine. Unwarranted enthusiasm of youth finds that allergy explains most of our bodily ailments while ultraconservative old age regards it as a passing fad.

There is some middle ground between these two extreme views where the truth is to be found. Many clinicians look upon allergy as a science of skin tests. They think that a patient can be sent to a technician who will put on a series of routine tests and report that certain pollens, or animal emanations, or foods, show a positive test, that the clinician will then advise the patient according to the result of these tests and expect to get good results. Such an attitude toward allergy is wrong, for en-

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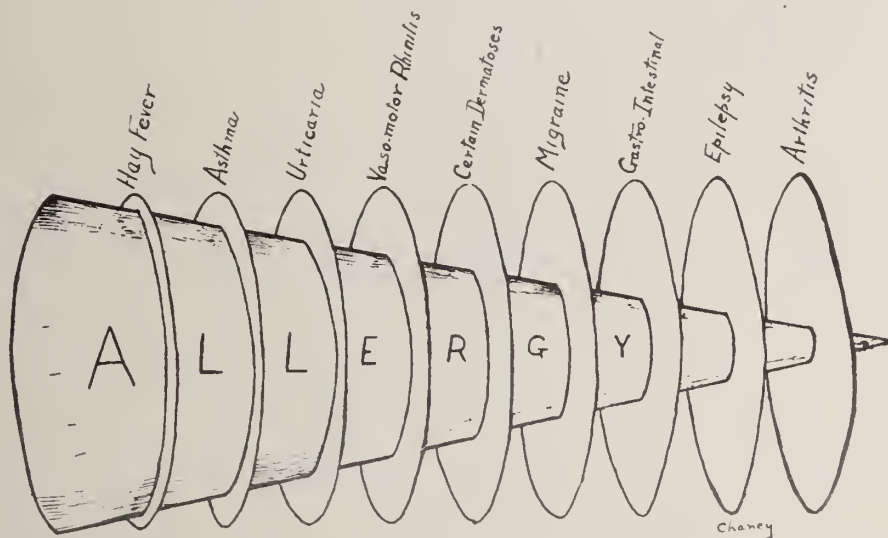
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tirely too much dependence is being put on the result of skin tests. A complete and carefully taken clinical history is perhaps more important in allergic conditions than anywhere else in medicine.

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ALLERGY MAY BE A FACTOR IN THE FOLLOWING:

Hay fever	Migraine
Asthma	Canker sores
Urticaria	Mucous colitis
Angioneurotic edema	Other intestinal diseases
General pruritus	Meniere's Syndrome
Eczema	Vernal conjunctivitis
Vasomotor rhinitis	Epilepsy
Chronic rhinitis	Arthritis
Recurring bronchitis	

Allergy, as a rule, is an inherited sensitivity. It is, however, the allergic tendency that is inherited and not the specific diseases such as hay fever, asthma, urticaria, etc. Having this inherited tendency, an individual at some time in his life may develop allergic symptoms in the respiratory tract, which is the most common site; in the gastro-intestinal tract, in the nervous system or in the skin. Indeed, it is generally believed that allergic symptoms may develop in any part of the body wherever involuntary muscle is found.

It is now a part of the daily routine of the otolaryngologist to examine the nose high above the inferior turbinates and say that the mucous membrane suggests an allergic condition, since it is pale gray, thick and boggy, or that it suggests infection, since it is red and appears acutely inflamed. The otolaryngologist now looks upon the common nasal polyp

as strongly suggestive of allergy. Hansel and others have shown that the diagnosis of an allergic condition in the respiratory tract can frequently be made by means of a smear of the nasal secretions stained for eosinophiles. The finding of large numbers of these cells is diagnostic, but the absence of them does not exclude the possibility of allergy.

The ophthalmologist has become "allergy conscious" for he looks upon vernal conjunctivitis and several other eye conditions as a hypersensitive reaction to pollens or other similar agents.

The far reaching tentacles of allergy have even pushed their way into the field of the neurologist. In 1922 Shannon reported a group of rather ill-defined "nervous children," some of whom had an associated eczema, asthma or hay fever, and who were proved to have an allergic susceptibility to foods. When the offending foods were carefully excluded from the diet the nervous symptoms entirely cleared up. Certain cases of Meniere's Syndrome and even an occasional case of epilepsy seem to have an allergic origin.

PERTINENT FACTS

1. 20% of the population of the U. S. suffer from some allergic condition.
2. Allergy must be thought of in asthma, hay fever, migraine, urticaria, pruritus, eczema, other skin diseases, gastro-intestinal diseases, epilepsy, arthritis.
3. Canker sores may be caused by certain

foods.

4. Vomiting in children is often of allergic origin.

Asthma. Asthma is a local manifestation of a generalized disease. The disease consists of an abnormal sensitivity to various stimuli, specific or non-specific, which are harmless to a normal individual.

The specific excitants of asthma are either inhalants, ingestants bacteria or a combination of these, while the non-specific factors are infection, mechanical, thermal, chemical or neurogenic, such as, exhaustion states, emotional influences and habit. Under "inhalants" should be included pollens, animal danders, feathers, dusts, molds, while under "ingestants" we should include foods and drugs.

EXCITING AGENTS OF ALLERGIC ATTACKS

Specific Excitants	Non specific excitants
Inhalants	Infection
Pollens	Mechanical
Animal danders	Thermal
Feathers	Chemical
Dusts	Neurogenic
Molds	Exhaustion
Miscellaneous	Emotional influence
Ingestants	Habit
Foods	
Drugs	
Bacteria	

Maytum

It should be emphasized that relief of asthma is seldom easily affected and certain patients fail to get relief even when treated by the most experienced allergists. Relief to the asthma sufferer usually comes after much time and patience has been spent by the physician. A doctor who studies his patient carefully and applies all of those fundamental principles that are often referred to as "horse sense," can give more relief to an asthmatic than the man who relies entirely upon the results of his skin tests.

There are many pitfalls that are responsible for our failure to cure the asthmatic. Three important points should be emphasized. The first is that all who wheeze do not have true asthma. Second, a carefully taken history is the greatest single step in solving the problem. Third, lung changes that are the result of long standing asthma, bronchiectasis, must be considered and treated as well as the exciting factors that were the original cause.

What, then, are those conditions that may mimic true bronchial asthma? There is heart disease, with the well known "cardiac asthma," apical tuberculosis, a substernal goiter which displaces the trachea, a foreign body in the bronchus, tracheal tumors, primary carcinoma

of the bronchus, and bronchiectasis.

If an asthmatic patient has a great deal of bronchiectasis, with large cavities filled with pus, every effort must be made to cope with this problem. X-ray and bronchoscopic studies are invaluable aids in selecting the proper treatment. Treatments with the bronchoscope sometimes are indicated and postural drainage is to be tried. A great deal of benefit is to be obtained in many cases by using Lipiodol or some other heavy iodized oil. This oil is allowed to run into the trachea and its distribution into the lungs is determined by the posture of the patient. Its value is thought to be largely mechanical. It is heavier than the pus and, therefore, the pus is displaced upward and is removed by coughing.

Asthma coming on after the age of forty-five is oftentimes not the result of specific sensitivity, but the younger the patient, the greater the probability that hypersensitivity is the cause. Asthma in young children is frequently caused by food sensitivity. As the child ages, his sensitivity changes. Foods then play a lesser part, and pollens, animal danders, and feathers become more important.

We can not enter into the big problem of focal infection versus asthma, but a few remarks are worthy of note. Chronically infected sinuses are frequently secondary to allergic conditions. In dealing with sinus infection in asthma it is a good rule to advise a nasal operation only when such an operation would be advised if the patient did not have asthma.

It is known, of course, that all attacks of asthma follow paroxysms of coughing. Many patients try to cough to bring up some tenacious mucous which they think is the cause of the attack. Many attacks of asthma can be avoided if the patient is prevented from coughing, either by voluntary control or with the help of codein in small doses.

Attacks may be brought on by odors of various kinds, perfumes, smoke, coal gas or the odor of cooking. Chilling the skin or the inhalation of cold air, overwork, worry, anger and fear are potent factors well known to all asthmatics.

From what has been said, then, it is obvious that the successful treatment of asthma is dependent upon spending much time on what might be considered minor details. There is certainly no stock remedy for this disease. A great amount of enthusiasm on the part of the physician and co-operation on the part of the patient are necessary for success. Patients are ready to believe that microscopic particles in the form of "germs" can cause trouble, but to tell them that their asthma is caused from dust emanating from pillows or from the backs of animals stirs up a certain amount of skepticism in their minds, and rightly so. Seeing is believing, however, and when these patients

experience no discomfort in breathing when they are put in a room free of dust, they become enthusiastic in carrying out orders to the letter.

Hay Fever. In 1565 Batallus of Pavia described a patient "who had an aversion to roses, since their odour caused headache, itchiness of the nose and sneezing" and yet it was not until recent years that practical application was made of the knowledge that his disease was in some way related to plants.

Hay fever is as satisfactory to diagnose and treat as asthma is difficult. Here is one condition in which the skin tests are so accurate that there can be little argument as to their value. But again the clinical history is of great value. If the patient reacts to many of the trees that pollinate in the spring of the year, but his symptoms are present only in the fall, it is obvious that the reaction to trees can be ignored. In hay fever, as in asthma, an attack may be the result of a summation of stimuli rather than the result of just one or two pollens. For example a patient who is sensitive to eggs would be more likely to have an attack of hay fever after eating eggs than he would be if eggs were left out of the diet.

In true hay fever there is a very definite seasonal relation to the pollination of the flora

found in that part of the country where the patient lives. Those patients who suffer in the early spring are sensitive to the trees, those who have attacks in the late spring and summer, to the grasses, and those who are affected in the fall, to the weeds. For convenience we may classify the cases into the oculo-nasopharyngeal group and the asthmatic group. The oculo-nasal cases are catarrhal in nature, associated with violent paroxysms of sneezing, profuse watery nasal discharge, itching of the eyes and nose, lachrymation and photophobia. In children hay fever expresses itself in an almost constant or frequently recurring cold. The so-called "adenoid picture" is more frequently due to hay fever than to adenoids. Bronchial asthmas occurs in about 60 percent of hay fever victims.

Gastro-intestinal Allergy. Gastro-intestinal allergy is a diagnosis that can only be considered after careful exclusion of other conditions. Allergists should not become so enthusiastic over this phase of allergy that they forget there is such a condition as acute appendicitis.

Osler called attention to abdominal crises occurring in the erythema group of diseases. We now believe that these conditions are evidences of food allergy. Rowe, in a report of 150 cases of gastro-intestinal allergy, describes almost every conceivable abdominal symptom as a pos-

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sibility in allergic conditions. He describes as allergic manifestations: canker sores, coated tongue, heavy breath, distention, belching, epigastric heaviness and pain, sour and burning stomach with nausea and vomiting, diarrhea, the so-called mucous colitis and even acute intestinal obstruction. If half of the guests at a dinner party develop abdominal cramp with vomiting and diarrhea, the chances are they are suffering with ptomain poisoning, but if only one in the party develops these symptoms, he is probably allergic to some of the food eaten. A certain number of cases of mucous colitis, if not all of them, are allergic in origin. Oftentimes the mucous obtained from these cases shows a large number of eosinophiles exactly like the nasal secretions in hay fever. In 1931 Kern reported a series of 32 unselected cases of duodenal ulcer, 40% of which gave a history of some allergic condition. It is true that certain supposedly normal individuals give positive skin tests to foods, but Kern was able to produce the ulcer symptoms in a few of them by feeding the offending proteins.

Allergic Dermatitis. In the field of dermatology allergy is a factor in the various types of hives, angioneurotic edema, eczema, general pruritus and oftentimes ill-defined skin eruptions due to contact with silk, cotton, wool, furs, various plants, powders, soaps, chemicals, etc. The dermatologist has become very adept in using the so-called "patch test" to identify the offending irritant. The patient who has an acute attack of hives can frequently tell the physician what has caused his trouble, but the real test of skill comes in curing a case of so-called chronic recurring hives. In this latter condition drugs are more likely to be the cause than are foods.

Vaso-motor Rhinitis. As in hay fever, vaso-motor rhinitis (Perennial hay fever) oftentimes has a food factor that must be reckoned with. Unlike hay fever, vaso-motor rhinitis is caused by inhalants other than the pollens. These cases must be tested fororris root, which is found in most face powders, house or occupational dusts, feathers and animal emanations.

Migraine. The science of allergy has caused a renewed impetus in unraveling the mysteries related to migraine or "sick headache." Migraine, which is one of the most interesting diseases in medicine, has a fairly characteristic symptom complex and the term must not be used loosely to refer to all attacks of pain in the head. In a study of 202 cases of migraine recently reported by Balyeat, 21% obtained complete relief by elimination of the offending proteins, 37% good results, 28% fair, and 12% were not improved at all.

Vaughan says that he has relieved 50 percent of his cases of headaches which were of the migrainous type. Just how many cases of migraine are entirely or practically on an al-

lergic basis can not be actually stated at the present time. Larger series of cases and a greater perfection in food testing will probably be necessary before the truth will be known. At the present time allergy is a factor in a large number of patients who have migraine, but there are probably cases in which food sensitivity plays no part at all. Some seem to be on a glandular basis. The study of migraine from an allergic standpoint offers our best approach today. It is generally known, of course, that the skin tests for foods are quite inaccurate and it is necessary to study the effects of certain foods on the patient by means of the elimination diet and by having the patient keep a food diary. If the patient is intelligent and is willing to co-operate in this method of trial and error, many cases of severe migraine can be relieved.

The so-called cyclic vomiting in children is probably due to certain foods to which the child is sensitive. Later on in life these patients acquire all the characteristic symptoms that are found in migraine.

Allergy does not claim to be a solution for the "chronic incurables," but it certainly can relieve many conditions that up until recently were considered hopeless. In the days of horses and buggies, a person could have just a plain old fashioned running nose but today that condition is allergic.

20 S. Dunlap Street.

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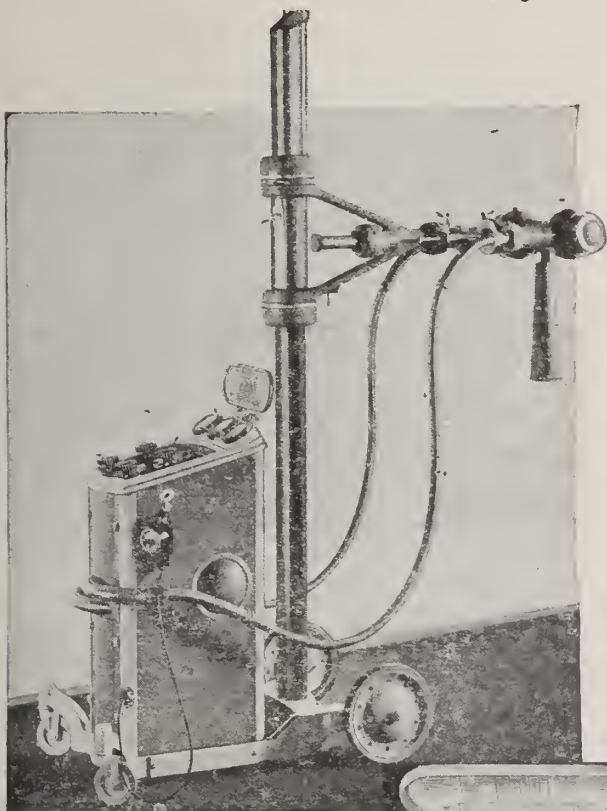
Robert Koch was a country doctor yet by nature a scientific investigator. His method of growing cultures of organisms of anthrax, was announced in 1876, his method of fixing and staining bacterial smears on slides and of photographing them for identification was published in 1877.

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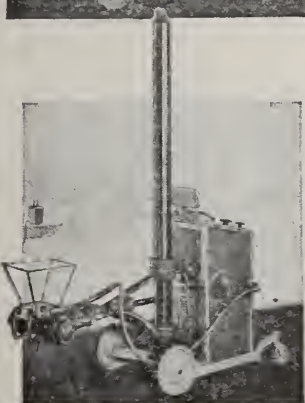
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Dr. Kenneth D. Blackfan

Boston, Mass.



Is Chief of the Medical Service, The Children's Hospital, Boston, Medical Director, The Infants' Hospital, Boston, Consulting Physician

Dr. A. F. Cooper

Memphis, Tenn.



Secretary of the Mid-South Post Graduate Medical Assembly. When it comes to being secretary he is a Ph.D. in the art. Much credit is due him for the growth of the Mid-South, the finest association in this country.

Dr. I. S. Wechsler

New York, N. Y.



Is Professor of Clinical Neurology at Columbia University, Attending Neurologist at the N. Y. Neurological Institute and Montefiore Hospital; also Chief of Clinic, Department of Neurology, Vanderbilt Clinic. Author of the "Text Book of Clinical Neurology" and one on "The Neuroses." Has published more than three score and ten papers on neurology and psychiatry.

for New England Peabody Home for Crippled Children, and Wellesley Convalescent Home.

Is Thomas Morgan Rotch Professor of Pediatrics, the Harvard Medical School.

Dr. Richard H. Jaffe

Chicago, Ill.



M.D. University of Vienna, Austria, 1913.

Was assistant and assistant Professor in Experimental Pathology, University of Vienna, 1914-1922, Associate Professor and Professor of Pathology, University of Illinois, College of Medicine, 1922 up to date.

Is Professorial Lecturer in Pathology, Rush Medical College, University of Chicago, 1928 up to date, Director of Laboratories, Cook County Hospital, 1928 up to date, Director of Uihlein Memorial Research Laboratory, Grand Hospital,

1928 up to date, Professor of Pathology, Cook County Graduate School of Medicine, 1933 up to date.

Dr. Eugene M. Landis

Philadelphia, Pa.



M.D. and Ph.D. (University of Pennsylvania, 1926 and 1927, respectively).

Is Assistant Professor of Medicine and Research, Associate in Pharmacology, Univ. of Pennsylvania.

Has done investigative work chiefly on the studies of capillary blood pressure and capillary permeability with respect to pathogenesis of edema formation and the problems of peripheral vascular disease.

Has studied capillary pressure in man, Raynaud's disease, Scleroderma, etc., under the direction of Sir Thomas Lewis, in London, as Fellow of the Guggenheim Foundation, 1929-30. With renewal of the Fellowship studies on cap-

illary permeability and capillary pressure were continued under Professor August Krogh, in Copenhagen, during 1930-31.

Dr. David L. Farley

Philadelphia, Pa.



A native of Mississippi, has lived in Philadelphia, except during the war when over seas for nineteen months as captain in the Medical Corps, since 1914, the date of graduation from the University of Pennsylvania. Work in Internal Medicine, is Chief of Medical Service A, Pennsylvania Hospital, which hospital is not the University of Pennsylvania Hospital, but the oldest hospital in North America, having been founded in 1754 by Benjamin Franklin. Is also Assistant Professor of Medicine at the University of Pennsylvania.

Was born in DeSoto County, Mississippi, in 1890. With Dr. O. H. P. Pepper, is co-author of the book, "Hematological Diagnosis," published by Saunders and Company. Has also written about thirty-five other articles.

Dr. Samuel A. Levine

Boston, Mass.



Harvard College, A.B., 1911. Harvard Medical School, M.D., 1914.

Is Senior Associate in Medicine, Peter Bent Brigham Hospital and Assistant Professor of Medicine, Harvard Medical School.

Member of the Association of American Physicians, American Society for Clinical Investigation. Has been President of New Eng-

land Heart Association and American College of Physicians.

Dr. H. Marshall Taylor

Jacksonville, Fla.



Graduate from the Medical College of Virginia, was a house surgeon of the New York Eye and Ear Infirmary and also studied in Vienna, Munich and Paris.

Is a past President of the Florida State Medical Association, a past President of the Southern Medical Association, was Chairman of the Ear, Nose, and Throat Section of the Southern Medical Association and was also a Chairman of the Council of the Southern Medical. Is a consulting otolaryngologist to St. Luke's Hospital, the Duval County Hospital and Riverside Hospital in Jacksonville, the Florida East Coast Hospital and the State School for the Deaf and Blind at St. Augustine. Is President of the American Bronchoscopic Society. For some ten years has been Chairman of the Committee on Otorhinologic Hygiene of Swimming of the American Medical Association. Is a member of the American Otological Society, American Laryngological Association, American Academy of Ophthalmology and Otolaryngology, American Bronchoscopic Society, and American Laryngological, Rhinological and Otological Society.

Dr. Walter C. Alvarez

Rochester, Minn.



Born in San Francisco in 1884, received the

degree of M.D. in 1905 from Cooper Medical College, now the Medical Department of Stanford University.

In general practice in Mexico from 1907 to 1909, and from 1910 to 1926, practiced internal medicine in San Francisco. Was Associate Professor of Research Medicine in the University of California. Has been at the Mayo Clinic since February, 1926, and now Professor of Medicine in the Graduate Medical School at the University of Minnesota. Is head of a section in Division of Medicine at Mayo Clinic.

Is member of over twenty medical societies, including Association of American Physicians, American Physiological Society, Society for Experimental Biology and Medicine, American Society for Clinical Investigation, and central Interurban Clinical Club. Is a member of several anthropological and archaeological societies.

Has published over two hundred and twenty-five papers, mainly in the field of gastro-enterology, and many in the field of gastrointestinal physiology. Has published two books, and is responsible for chapters on Diseases of the Digestive Tract in Oxford Medicine and other large systems of medicine.

Is past president of the American Gastro-Enterological Association and is on the Editorial Board of a number of medicine journals.

Dr. John T. Murphy

Toledo, Ohio



Born 1885, Toledo, Ohio; graduated, Toledo, University, M.D., degree, 1906; Member: American Medical Association; American College of Physicians; American College of Radiology. American Roentgen Ray Society, 1933, president American College of Radiology, 1935-36, secretary of section of radiology of the American Medical Association since 1932; director of radiological department, St. Vincent's Hospital, and consultant, radiological department, Lucas County Hospital.

Dr. Frederick C. Kidner

Detroit, Mich.



Graduated from Harvard Medical School, 1904. Surgical service, Massachusetts General Hospital, 1905. General surgery in Boston until 1911. Orthopedic surgery in Detroit since that time. Twenty-two months overseas with the orthopedic division of the American Air. Loaned for one year to Sr. Robert Jones and the British Reconstruction Service. Consultant, Base Section Three, S.O.S., U. S. Army, in France and England. Now: Extra-mural instructor in orthopedics at the Medical Department of the University of Michigan. Surgeon in charge, department of industrial and orthopedic surgery, Harper Hospital in Detroit. Member of the American Orthopedic Association, Clinical Orthopedic Society, and the American Academy of Orthopedic Surgeons.

Dr. Josephine B. Neal

New York, N. Y.



Dr. Josephine B. Neal, Cornell, 1910; Clinical Professor of Neurology, Columbia University, New York, since 1929; Consultant in Acute Infections of the Central Nervous System, New York Infirmary for Women and Children since 1925, Neurological Institute, New York, since 1930, and Vanderbilt Clinic, New York, since 1934; Assistant in the Meningitis Division, Research Laboratory, Department of Health, New York City, from 1910 to 1914; in charge of the Division since 1914; Director of the William J. Matheson Survey of Epidemic Encephalitis

from 1927 to 1929; Executive Secretary of the William J. Matheson Committee for the Study of Infantile Paralysis from 1929 to 1932; Member of the N. Y. County Medical Society, N. Y. State Medical Society, A. M. A., American Public Health Association, N. Y. Academy of Medicine, Association for Research in Nervous and Mental Diseases, and the American College of Physicians; Author of numerous articles on acute infections of the central nervous system (meningitis, poliomyelitis, encephalitis) published in various medical journals (J. A. M. A., N. Y. State J. Med., Arch. Neurol. and Psychiat., Am. J. Med. Sc., Am. Jour. Public Health, Arch. Pediat., Am. J. Dis. Child., et al.) since 1914.

Dr. Abraham Levinson

Chicago, Ill.



Assistant Professor of Pediatrics at the Northwestern Medical School, Senior Attending Physician at the Sarah Morris Hospital for Children of the Michael Reese Hospital, Attending Physician, Cook County Children's Hospital, Chief of the Department of Pediatrics, Mt. Sinai Hospital, President of the Chicago Pediatric Society.

Most notable achievement has been in the field of pediatric neurology, particularly in the diagnosis and treatment of cerebral hemorrhage in the newborn and in the study of meningitis. Among his other outstanding contributions has been the description of a sign for the differential diagnosis between laryngeal diphtheria and laryngitis, and of a method for eliciting the whoop in whooping cough. Also devised instruments, such as a tongue depressor for infants and a spinal puncture needle and manometer.

Author of "Examination of Children by Clinical and Laboratory Methods," "Pediatric Nursing," "Cerebrospinal Fluid in Health and Disease."

Awarded the Certificate of Merit, Class I, for scientific exhibit on cerebrospinal fluid at the Convention of the American Medical Association held in New Orleans, in 1932.

Dr. Emil Novak

Baltimore, Md.



A.B., M.D., D.Sc. (Hon., Univ. of Dublin), F.A.C.S. Graduated from Univ. of Md. Med School, 1904. Post-graduate work in Berlin and Vienna; Associate in Gynecology, John Hopkins Medical School; Visiting Gynecologist, Bon Secours & St. Agnes' Hospitals. Former Chairman on Gynecology, Obstetrics and Abdominal Surgery, A.M.A.; Fellow and Former vice-president American Gynecologists Gynecological Society; Fellow American Asso. Obstetricians, Gynecologists and Abdominal Surgeons, Southern Surgical Association, American Asso. Study of Internal Secretions, etc. Honorary Hellow Sociedad de Obstetricia y Ginecologia de Buenos Aires, Hon. Fellow Texas Asso. Obstetricians and Gynecologists. Author "Menstruation and Its Disorders," "The Woman Asks The Doctor," Sections in Curtis' "Obstetrics and Gynecology," Lewis' "Practice of Surgery," Kelly's "Gynecology," and other text books and systems. Has published about 225 papers on gynecological subjects.

Dr. Gilbert J. Thomas

Minneapolis, Minn.



F.A.C.S.; President-Elect of the American Urological Association; Secretary-Treasurer of the American Board of Urology, Inc.; Assistant Professor of Urology in the Medical School, and Graduate School, University of Minnesota; attendant surgeon at St. Mary's Hospital, University Hospital, Eitel Hospital, Minneapolis,

Minn., and attendant surgeon at Glen Lake Sanatorium, Oak Terract, Minn.

Dr. C. S. Beck

Baltimore, Md.



M.D., Johns Hopkins University 1921, was interne at the Johns Hopkins Hospital, Arthur Tracy Cabot Fellow in Surgery at the Harvard Medical School and Associate in Surgery at the Peter Bent Brigham Hospital, Crile Fellow in Surgery at the Western Reserve University School of Medicine before his present position as Associate Professor of Surgery at Western Reserve University, and Associate Surgeon at the University Hospitals of Cleveland.

Has been interested in the heart as a surgical organ since 1923 and has laid a greater foundation in the problems of the heart and pericardium than perhaps any other surgeon. Experience is based on over 1200 heart operations, stresses cardiac compression as a condition which requires surgical treatment. Has shown that contusions of the heart are a very common form of cardiac injury. Has succeeded in giving the heart a new blood supply by operation.

Dr. Norman Bethune

Montreal, Canada



Age 45. Single. Born Gravenhurst, Ontario, Canada. 1914-15 stretcher bearer, First Division, Canadian Expeditionary Force, France. Wounded. Graduated Toronto University, 1916. Surgeon Royal Navy 1917-18. Post graduate work

London, 1920. Edinburgh, 1921 Post Graduate Vienna and Paris, 1921-22. Practiced in Detroit 1923-26. First Assistant Medical Surgical Pulmonary Clinic Royal Victoria Hospital, Montreal, 1933.

Dr. Frederick A. Collier

Ann Arbor, Mich.



b. Brookings, S. D., Oct. 2, 1887; s. Granville James and Helen Rosalie (Underwood). C.: B.S. and Ph.G., S. D. State Coll., Brookings, 1906. M.S., 1908; M.D. Harvard, 1912. m. Jessie Edwards Bernsen, Dec. 10, 1917; children: Carolyn, Jean. Surg. interne, Mass. Gen. Hosp. 1912-14; resident surgeon 1914-15; asst. prof. surgery, U. of Mich., 1920-23, asso. prof., 1923-26, prof. since 1926, dir. head of surgery since 1930. Served overseas with Harvard Unit Am. Ambulance Corps, B.E.F., 1915-16; commd. capt. Med. Corps, U. S. A., Sept. 1917, maj., 1918; overseas with 316th Sanitary Train, 91st Div., U. S. A., 1918-19; lt. col. Med. R.C., 1924-29: Fellow A.M.A., American College of Surgeons; mem. Am. Surgical Association, Society of Clinical Surgery, Southern Surgical Association, Internat. Surg. Assn., Soc. for the study of Goiter, Mich. State Med. Soc., Washtenaw Co. Med. Soc., Detroit Acad. Med., Phi Kappa Phi, Phi Rho Sigma, Republican. Club: Bardin Hills Country. Home: 2105 Walliford Rd.

Dr. Conrad Berens

New York, N. Y.



Born in Philadelphia, Pa., 1889. Grandfath-

er practised medicine for forty-five years in Philadelphia, where father also was ophthalmologist and surgeon thirty-five years. M.D. Univ. of Pennsylvania in 1911. Established practise in ophthalmology in New York City in 1916. Is directing surgeon and ophthalmologist at the Lighthouse Eye Clinic, of Seaman's Church Institute, of Midtown Hospital. Ophthalmic surgeon and pathologist of New York Eye and Ear Infirmary, and consultant New York Infirmary, U. S. Veteran's Hospital No. 81, Woman's Hospital. Has invented several ophthalmic instruments and apparatus. Editor eye sections of "Cyclopedia of Medicine" and "Review of Medical Progress" during World War had appointments to Mineola, Manhattan Hospital, Chanute Field, and Washington, D. C. In 1924 was commissioned to Medical Reserve, lieutenant colonel.

He is a member of the American Medical Association, American Ophthalmological Society, American College of Surgeons, American Academy of Ophthalmology and Otolaryngology, Air Medical Association (president, 1930), New York Academy of Medicine, Association for Research in Ophthalmology, Association for Research in Nervous and Mental Diseases, American Association for the Advancement of Science, Optical Society of America, Pan-American Medical Association, Association of Military Surgeons of the United States and Societe des Chirugiens de Paris. His recreations are etching and travel.

Dr. C. R. Straatsma

New York, N. Y.



Consulting Plastic Surgeon: Newark Eye and Ear Infirmary, Newark, New Jersey; Grasslands Hospital, Valhalla, New York.

Active in the plastic clinics of the following hospitals: New York Post-Graduate Hospital, Manhattan Eye, Ear and Throat Hospital, City Hospital, New York Ophthalmic Hospital.

Member of the following Societies; American Medical Association, American College of Surgeons, American Academy of Ophthalmology and Otolaryngology, New York State Medical Association, New York County Medical Society,

Vice-President, the Society of Plastic and Reconstructive Surgery.

Author of the following publications: Plastic Repair of Severe Radium Burns and Angioma, Plastic Repair of Partial Losses of the Nasal Tip, Congenital Deformities of the External Ear, Plastic Surgery, Its Use and Limitations, The Simplification of Nasal Plastic Surgery, A Method for Repair of Severe Syphilitic Nose, Nasal Plastic Preparation, The Use of the Dermal Graft in the Repair of Small Saddle Defects of the Nose, Repair of Post Auricular Fistula by Means of a Free Fat Graft, A Method for Repair of Post Auricular Fistula Following Radical Mastoidectomy.

Dr. Frank H. Lahey

Boston, Mass.



Director of Surgery in the Lahey Clinic, Surgeon-in-Chief to the New England Baptist Hospital, Surgeon to the New England Deaconess Hospital, Chairman of the Council of Scientific Assembly of the American Medical Association, member of the American Surgical Association, Fellow of the American College of Surgeons, Fellow of the International Surgical Association. Was Professor of Clinical Surgery at Harvard Medical School.

Dr. James R. McCord

Atlanta, Ga.



Professor of Obstetrics and Gynecology, Emory University School of Medicine.

Dr. Harlow Brooks

New York, N. Y.



Member of fifteen years' standing of the Association of American Physicians; of the American Medical Association; the Association of American Physicians; of the American Medical Association; the Association of American Gastro-Enterologists; the New York Academy of Medicine; the New York County, and State Medical Societies. Honorary and active member of many other medical societies; of the American Academy of Science; Fellow in Science of the American Zoological Society; member of the American Museum of Natural History; honorary member of the Academy of Medicine of Brazil, of Mexico and of other foreign societies.

Been president of the New York Pathology Society; of the Medical Section of the New York Academy of Medicine; was three years vice-president of the New York Academy of Medicine; former Chairman of the Educational Committee, New York Academy of Medicine; was for two years president of the American College of Physicians, etc.

Dr. Norman F. Miller

Ann Arbor, Mich.



Professor of Obstetrics and Gynecology, University of Michigan; staff University Hospital, Ann Arbor.

Dr. John A. Killian
New York, N. Y.



Dr. Morris Fishbein
Chicago, Ill.



This is a likeness of Dr. Morris Fishbein, editor of the American Medical Journal, the greatest medical journal published in the world, with the possible exception of "The Mississippi Doctor". He is to appear on the program of the Miss. State Medical Association which meets in Greenville, the fourth of May. It will be worth the trip to hear him. He is a most entertaining speaker and he has a great store house of information. The Miss. State is very fortunate in obtaining him.

Four of the best general medical publications of the past year of which you have read previous reviews in this journal, are published by the Columbia University Press, New York:
Cabot's THE DOCTOR'S BILL.
Dewey's EMOTIONS AND BODILY CHANGES.
Goodwin's RUSSELL A HIBBS.
Morton's THE HUMAN FOOT.

How the General Practitioner Can Cooperate With the Urologist in the Treatment of the Surgical Kidney

GEORGE R. LIVERMORE, M.D., F.A.C.S.
Memphis, Tenn.

The general practitioner can cooperate with the urologist in many ways, and in order to make them plain I shall endeavor to show you some of the pitfalls and tell you how to avoid them.

First, however, you can cooperate when ever you send a patient to the urologist by first putting him or her on urotropin.

The reason for this is because any instrumentation of the bladder and kidneys may be followed by a reaction with a rigor, fever and sweats, but if the patient is taking urotropin it is much less apt to occur, and should it develop it will prove less difficult to control. We make it a rule to give urotropin gr. XXXI intravenously after every examination, and should a rigor and fever result we give it twice a day until the patient is relieved.

Pus and blood are abnormal constituents of urine regardless of the amount. All of you probably have examined many specimens of urine containing a few pus or blood cells, or both; and as the patient seemed in good health and did not complain of the bladder or kidneys, you considered the urine normal. This was a grave error for it is remarkable how much pathology may be present when only a few pus or blood cells are found in the urine. Often tuberculosis or carcinoma of the urinary tract manifests itself first by a few blood and pus cells in the urine; while some simple, and easily cured malady, such as a ruptured varicose vein in the bladder, or a urethral caruncle, may produce very active hemorrhage with the appearance of large quantities of blood and clots in the urine.

I have recently seen a case of extensive urethral caruncle in a young married woman who was so weakened by the loss of blood that her family physician sent her to the hospital because he thought such excessive hemorrhage could only mean carcinoma of the bladder. And I shall show you later several slides on the screen of cases with extensive pathology of the bladder, ureters or kidneys in whose urine only an occasional pus or blood cell could be found.

I have been so impressed with the disregard of our profession of pus and blood in the urine that I feel we must wake up to the seriousness of such findings, and have these patients thoroughly examined to determine the cause and source of the blood and pus before irre-

parable damage, or even death results. It is especially true of children who have repeated attacks of pyelitis (pyelonephritis) with rigors, fever and sweats, with pus and blood cells in the urine; who after the acute symptoms subside are allowed to resume their daily activities without any other treatment than alkalies or urotropin (which were formerly used) or pyridium or seranium (which have now come into vogue) though the urine continues to show pus and blood cells in varying amounts and the little patient suffers constantly recurring attacks of rigors, fever and sweats.

No one with pus or blood, or both in the urine, either microscopical or macroscopical should be considered normal until their source and cause has been determined and eradicated. Children may be cystoscoped with the same degree of accuracy and precision as the adult, and with much less reaction. The only contra-indication is in cases where the blood chemistry is too high and the phenolsulphonethylamine output is too low. I have cystoscoped a girl baby 5 days old, and a boy baby one month old. No one can determine from the appearance of the urine the source of blood or pus, or state whether it indicates much or little pathology.

Hemorrhage from the kidney may be due to either local or constitutional causes.

I herewith take this opportunity to again impress upon you the danger of completely emptying an overdistended bladder, especially in old men with hypertrophy of the prostate. By suddenly removing the pressure of the urine on the inflamed and softened mucosa of the bladder, the veins may dilate suddenly and rupture, giving rise to serious bleeding. There is also danger of causing congestion of the kidneys which may result in anuria and death.

Hypertrophy of the veru montanum and urethral valves cause symptoms similar to hypertrophy of the prostate and occurs frequently in infants and children. Both may be easily diagnosed by the cystoscope, and usually promptly relieved by the high frequency current.

Infections of the urinary tract are frequently neglected or passed over with scant examination when only a few pus and blood cells are found in the urine, and often irreparable damage is done before the patient is brought to the urologist. These are the cases that fail to respond to the cystoscope and irrigation of the kidneys, and must be subjected to treatments for a long time, or even for life.

In stricture of the ureter with marked dilation of the ureter and destruction of the kidney, the urine may appear normal or contain only an occasional pus or blood cell and even be sterile on culture.

In appendicitis a few pus or blood cells may be found in the urine, due to the toxemia of

the infection, hence the difficulty of differentiating it from lesions of the kidney and ureter especially when a leucocytosis, high poly count and tenderness over the lower right quadrant and loin are present in both conditions.

When in doubt in acute cases and in the chronic ones, we are always in doubt, it is safer to have a cystoscopy and X-ray rather than run the risk of performing an unnecessary operation. You would be surprised to know the number of patients we urologists see who have had an appendectomy, ovarian, uterine or gall bladder operation without relief, whose symptoms were due to some lesion of the right ureter or kidney. Contrary to general belief, renal and ureteral colic are not always due to stone in the kidney, or ureter, and a calculus may be present in both localities without pain or other symptoms referable to it, except that we find pus and blood cells in the urine.

Infections of the bladder as evidenced by pus, bacteria and blood in the urine do not give rise to fever unless there has been an abrasion of the mucous membrane of the bladder or urethra (e.g. following catheterization or the passage of a sound). Therefore when a patient has pus in the urine with or without symptoms of cystitis and is having a daily rise of fever, or one or more chills followed by fever, the infection has involved the kidneys. A cystitis that does not clear up promptly under bladder irrigations generally proves that the infection is higher up (exceptions stone, ulcer and tumor of the bladder).

Pus and blood in the urine occur also in stricture of the urethra. Nocturia, frequency and the passage of a small stream should make the physician suspicious that a stricture is present. The same symptoms are also present in hypertrophy of the prostate, but it is a disease of men past 50, (although median prostatic bar occurs at almost any age) and both may be suspected, when there is residual urine, fill the bladder with boric acid solution, remove the catheter and let the patient void. There will then be left in the bladder an amount of boric acid solution equal to the residual urine you drew off, thus obviating the danger of completely emptying the bladder.

Regardless of whether patients with urinary tract disease have subjective symptoms or not, all of them have pus, blood or bacteria in the urine and when found are the danger signals that should warn us not to temporize by giving medicines or bladder irrigations, but to insist upon a thorough urological examination at once. I have recently seen a case of inoperable carcinoma of the bladder in a man, who had passed bloody urine at intervals for six months, and whose family physician had been lulled into a false sense of security by the disappearance of the blood following the administration of Cyanethyn. It is rather im-

portant for the urologists to see the patient when hematuria is present because after it ceases it may be more difficult to locate its origin. Only a catheterized specimen of urine is of value in a woman; and in men with a long prepuce, the foreskin should be retracted before the specimen is passed. After catheterization always inject some antiseptic solution into the bladder before withdrawing the catheter in order to diminish the possibility of infecting the bladder, e.g. argyrol 10%, silvol 10%, protargol $\frac{1}{2}\%$.

Infections reach the kidney by way of the blood stream (by far the largest number) by the lymphatics and by reflux up the ureters. I believe too that stasis or back pressure is one of the chief causes of infections of the kidneys, and were it not present so often, we would see fewer cases; therefore, any obstructive lesion of the urinary tract, ureter, bladder, or urethra by producing stasis and back pressure predisposes that patient to kidney infection. The establishment of thorough drainage with the relief of stasis and back pressure usually brings about prompt relief. This may be easily proven to your entire satisfaction in the next case of hypertrophy of the prostate with marked retention, rigors, fever, and sweats that comes under your care.

The patient is suffering from pyelonephritis, pus in the kidneys, due to back pressure (stasis) from obstruction at the bladder neck. Introduce a soft rubber catheter into his bladder, drain the bladder, then decompress by connecting the catheter with one of the decompression appliances now on the market. Give the patient 31 grains of urotropin intravenously twice daily, and in from 24 to 72 hours the patient's rigors will have disappeared and the temperature will be normal.

In the type of obstruction caused by hypertrophy of the prostate, pyelonephritis is a very frequent complication. The introduction of a retention catheter and the relief of back pressure on the kidneys usually brings temporary relief. With the removal of the catheter the symptoms return and the patient will not be relieved until the obstruction is removed. Fortunately most of these patients can now be relieved by prostatic resection which is the new electric loop method of removing the obstructing prostate through the cystoscope. This operation though much less hazardous than prostatectomy is not free from danger. In fact any operation on men from 60 to 80 years of age will result in some mortality. As you know hypertrophy of the prostate is a disease of elderly men, always in men past 50 whose bladder and kidneys are not in the best of condition (especially the kidneys) for the very reason of obstruction and back pressure or stasis as already mentioned.

In the operation of prostatic resection it is

absolutely essential to prepare the patient just as carefully as we would for a prostatectomy. The back pressure must be removed from his kidneys, thus clearing up the pyelonephritis and preventing absorption of urinary products, and at the same time giving the kidney cells which have been compressed and damaged by this back pressure a chance to expand and function again.

When the kidney and blood tests, blood pressure, heart action and general condition of the patient is satisfactory then and then only should he be subjected to prostatic resection.

In resection, no cutting is done from the outside, but a wire loop is introduced through the cystoscope into the bladder neck and a very high frequency electric current passed through the loop enables the urologist to cut out the obstructing portion of the prostate. The chief dangers of the operation are hemorrhage, uraemia and cardiac failure, apoplexy and embolism. Some patients too with very large hypertrophies will require a second resection, as it is sometimes impossible to remove all the obstructing prostate at one sitting.

CONCLUSIONS

(1) Blood and pus are abnormal constituents of urine regardless of the amount and their cause and origin should be determined.

(2) Severe and destructive pathology of the urinary tract may be present with only a few pus or blood cells in the urine, and with apparently little effect on the physical condition of the patient.

(3) Cystoscopy is indicated in every case of pyelonephritis that does not respond promptly to alkalies or urinary antiseptics, and removal of foci of infection.

(4) Children are subject to all the urological conditions that affect the adult with the exception of hypertrophy of the prostate, and even this is simulated by hypertrophy of the veru montanum urethral valves.

(5) Stasis is one of the chief causes of infection of the urinary tract.

Medical Arts Bldg.

The Post Graduate work brought out to the busy practitioner by the cooperation of the Commonwealth Foundation, the State Board of Health, Mississippi State Hospital Association and Tulane is a step in the right direction. Medical education must be carried out to the busy practitioner. Mississippi is taking the lead.

It would sound mighty good and it would be good to say, Felix J. Underwood, Surgeon General. No better man could be found.

Dental Cripples*

FELIX J. UNDERWOOD, M.D., F.A.C.P.

Health is our most valuable asset. It is the individual's, the State's, and the Nation's wealth and everyone is entitled to his share. Today is a day of change—whether we want it or not does not alter facts. In the new order, health has a prominent place, insuring each individual an opportunity for service, for protection and guidance therein. Will you consider with me, Mouth Health—not as a complete health program, but as the beginning only.

Man's early ancestors had forty-four teeth—today we have only thirty-two. Occasionally we see individuals who have thirty-six well-developed and normal teeth. The question then comes to our mind at once—what will be the mouth condition of man 2000 years hence? Is it possible that we may have a toothless race?

Much progress has been made within the last few years in dentistry, and today a student must study six years in college before he can apply to the State Board of Dental Examiners for license to practice his profession. Whatever part of our modern civilization we may analyze there is a great source of satisfaction in knowing that constant progress is being made, and today we look with a justifiable pride on the progress of dentistry.

The importance of scientific dentistry is fully recognized by the medical profession, and all medical clinics today include a thorough examination of the oral cavity and teeth as necessary steps in medical diagnosis and rely on the dental profession for assistance in elimination of dental infection. And, a periodic health examination is not complete unless there is a thorough dental examination, also.

In recent years the large industrial institutions have been having examinations and X-rays made of the mouths of all workers, and requiring the correction of defects. As these institutions gain more knowledge from experience on the handicaps of dental cripples, they come to require a more rigid examination of all applicants for work, refusing each one whose mouth conditions are not conducive to the best of health, even though at the time the applicant may be in the best of health. From experience, industries and institutions have found that mouth health is the beginning of health.

Sometimes we as physicians do not consider the seriousness of the dental cripple. If inconvenience and personal disfigurement were

the only results the outcome would not be so serious, but when many bodily ills are traced to bad teeth, and we are brought face to face with the fact that many people are figuratively digging their graves with their teeth, the question begins to assume an entirely different aspect to the physician and to the dentist.

It should not be necessary to dwell on the misfortune of losing a tooth. Everyone knows that each tooth has a definite function to perform. If one tooth is missing our entire chewing apparatus is affected, and we have a situation similar to that of an automobile with one cylinder missing. An important function of any tooth, aside from grinding food, is to hold the teeth on each side of it in their proper positions.

In addition to mechanical changes in the arrangement of the teeth in relation to other tissues of the body, these changes in themselves invite infection to the teeth and surrounding tissues thus producing a lodging place or focus of infection. These are manifested in cavities in the teeth, abscesses at the end of the roots of teeth and abscesses on the sides of the roots. From such foci, bacteria are carried to other parts of the body. It has been proved over and over again that those germs may be harbored around the teeth in those foci. The germ which most frequently infects the teeth is known as the streptococcus. There are various strains of streptococci—each with a definite affinity for a certain part of the body.

The principal foci of infection of the oral cavity is found in abscessed teeth, pyorrhea, retained roots, and partially-erupted wisdom teeth. The unerupted wisdom tooth should have consideration, since so many disturbances are caused in its attempt to erupt; their continued presence is characterized by severe symptoms produced by pressure. One boy, seventeen years of age, was completely unbalanced mentally, became violently destructive, and was placed in an institution for the feeble-minded; after the removal of an impacted wisdom tooth he was completely cured and returned to his home. Such imbedded wisdom teeth also affected the alignment of the teeth, as they crowd out of position those teeth that have already erupted. X-rays should be taken to determine the location and position.

The ideal is to prevent these conditions; therefore, I would impress you with the value of prevention of disease in any part of the body. Look at the thousands of dental cripples today who do not have the opportunity to turn back and take up the practice of prevention.

No one would drive a car that is not performing smoothly. First, because it is no pleasure; second, there is the fear that it will stop running altogether. It should be remembered that the physical body reacts to cripp-

*Read before the Northeast Mississippi Thirteen Counties Medical Society, Tupelo, December 17, 1935.

pled teeth in the same way that one reacts to a croppled car. A crippled car cannot run smoothly; and crippled teeth cannot chew properly. If food is not masticated well, an overload is thrown on the organs of digestion. At first there seems to be no difference, even though the food has not been chewed properly, but as time goes on, there come slight periods of discomfort and indigestion. For a time this continues and eventually there is a stomach disorder that is at once serious. This can be corrected by treating the mouth condition provided there has been no permanent injury to the stomach. The mouth should be restored to as near normal as possible for health's sake.

It doubtless will be surprising to learn that sixty-five percent of all men and women at the age of fifty years, and ninety percent of all those attaining seventy-five years, are wearers of dentures, popularly known as "false teeth" or "plates." This dental substitution could be averted in the majority of these cases by proper early and continued care of mouth and teeth.

This is a serious indictment against human nature. It also presents a real challenge to health educators. For some reason the average person views health and vitality as an automatic proposition. Having been born and survived the hazards of babyhood and youth, the individual argues that good fortune in the form of continued vigor and freedom from disease will continue to be his lot; and this, even though he be positively neglectful. Unfortunately, Nature does not work quite that efficiently.

Spider-Bite Poisoning: Arachnoidism

S. F. HOGE, M.D.
Little Rock, Ark.

Since the spider has been known for years, has always engendered a certain amount of curiosity and even fear, has been the agent of spinning a web not duplicated by man nor insect, has been poetized, etc., we hardly know whether to fear, tolerate, admire, or exterminate. Fortunately most species are harmless, yet there are certain ones that are very poisonous for man and animals. Our lack of information along this line has been so vividly exposed by so many cases during the past year that a short concise summary of our researches might not be amiss. (1)

The first reported case was by Dr. Hopton, of North Carolina, in 1829. The first death by Dr. Rich, from North Carolina, in 1889. Since that time over four hundred authenticated cases with sixteen deaths have been reported.

The offending spider in each instance belonged to the black widow variety. (*Lactrodectus mactans*) hour glass spider. The poisonous females are about one-half inch long, shiny black in color with red or orange, usually bright red spots, hour glass arrangement, along the greater curvature of the abdomen. The males are not poisonous, are devoured by the females and may enhance the poison of the latter. The Surgeon General's office reports "the poisonous spiders in North America are divided into two groups: (1) A large hairy type known as the tarantulus, and (2) a smaller coal black species, the *Lactrodectus mactans* (black widow). Severe and even fatal poisoning may follow its bite."

The spider is found over much of the United States, 250 cases were reported in California, 35 in Florida, 27 in Virginia, 17 in Alabama, 12 in Louisiana, 9 in North Carolina, 7 in Georgia, 6 in Arkansas, 5 in Texas, 2 in Kansas. No doubt many other cases have occurred but were not reported. I personally know of several.

Many of us are inclined to believe that the "black widow" lives mostly outdoors in dark or hidden places and niches, as about barns, tree stumps, boards and trash, about the yards, cellars, storage rooms, old fences, etc., but to our dislike she is more sociable and is frequently found in our garages, on our porches and lawns, hallways wardrobes, and six cases are reported where she was quite comfortable in the so called "spare bed."

At the site of the bite there is a sharp sticking or stinging sensation, but very little pain. Redness and swelling may or may not be present at any time. In twenty to sixty minutes after being bitten, the pain extends by contiguity and centrally, i.e., bite on finger, pain along arm, to chest and abdomen, on foot, up leg to groin, abdomen and chest. The final distribution of pain is the abdomen. It is excruciating and more severe than an attack of acute colic or gall-stones, or appendicitis. The abdominal muscles may show board like rigidity. The muscles of back and thighs are usually quite tense and spastic. Localizing abdominal tenderness is quite rare.

In addition to the acute pain and muscle spasm, there are often nausea and vomiting, difficult respiration, cyanosis, paralysis, restlessness, convulsions, shock, collapse, unconsciousness and finally death. The latter manifestations are evident only in the occasional case which proves fatal. The pulse is usually slow. The temperature may be elevated one to two or even three degree. Jaundice, muscular eruptions and chills are not uncommon.

Differential diagnosis must rule out hysteria, ruptured gastric or duodenal ulcer, appendicitis, peritonitis, renal and biliary colic, tabetic crises, food poisoning, pleurisy, pneumonia,

tetanus, valvulus and intussusception. The guiding factual data to a correct diagnosis includes: 1. History at least suggestive of spider bite; 2. Severe pain spreading centrally, involving abdomen and chest, worse in about one to three hours and may be continuous or intermittent; 3. Spasm of muscles especially those of abdomen with "board like rigidity;" those of legs; the inter-costals, making breathing difficult; 4. Leucocytosis, with an increase of polys and a left shift; 5. Nausea and vomiting, sweating, restlessness, anxiety, chills, urinary retention, slowing of pulse and mild rise of temperature, increase blood pressure and spinal fluid pressure, reflexes hyperactive; 6. After twelve to twenty-four hours the symptoms begin to subside and after several days the patient is comfortable and no residuals are left.

TREATMENT

The first essential is prevention. Sedatives to relieve the pain are necessary. Hypodermics are used freely and large doses. Hydrotherapy, hot baths are very soothing. Glucose and saline by vein are essential and mandatory if much vomiting has occurred. A ten per cent solution of magnesium sulphate by vein has given relief. Spinal puncture with drainage has given relief in a limited number of cases. Stimulants as caffeine, adrenalin, alcohol are not advised. Convalescent serum has been used successfully when available.

1. William H. Chapman. Veterans Administration Facility, Des Moines, Iowa.

Medical Bulletin, Veterans Administration, January, 1936, Volume 12, No. 3, Page 241.

Alkaline Incrusted Cystitis

HUBERT K. TURLEY, M.D.

Incrusted cystitis is a chronic inflammatory condition of the urinary bladder, which is secondary to a pre-existing cystitic. As shown by Hager & Mogath there has been an implantation upon the pre-existing cystitis of the urea splitting organism known as the proteus ammonae. This organism they found split the urea of acid urine into ammonia and carbon dioxide, the alkaline reaction thus precipitating the inorganic salts of phosphates and carbonates upon the inflamed or ulcerated mucus membrane of the bladder. These men were able to isolate the organism from the urine of patients and reproduce the lesion in animals.

There is usually an infection of the upper urinary tract which doubtless caused the primary cystitis. The ulcerative condition of the mucus membrane in the bladder frequently follows some trauma as; childbirth, prostatectomy or instrumentation. Thus producing an ideal field for the implantation of the proteus

ammonae which is unquestionably carried into the bladder by instrumentation.

This condition is found more frequently among women than men. There is usually a history of chronic cystitis extending over a long period of time with an exacerbation of the bladder symptoms following some trauma to the urinary bladder.

SYMPTOMS

The frequency, urgency and dysuria is intense, nocturia from ten to fifteen times at night undermines the patient's rest. Hematuria is usually present in varying degrees. The urine is alkaline with an offensive odor, containing mucus gritty sandy material, and frequently the patient may pass well formed stones of the constituents mentioned. The bladder capacity soon becomes greatly diminished. There is usually no temperature. Secondary anemia often follows from long continued hematuria and may require blood transfusion as was found necessary in a case recently seen.

DIAGNOSIS

The diagnosis is usually made by the history of a long continued cystitis with an alkaline urine, and the frequent passing of gritty sandy material. Culture of the urine showing the presence of the proteus ammonae.

Cystoscopic examination is often difficult procedure due to the ulcerated and diminished capacity of the bladder, it may even be necessary to use a general anaesthetic or resort to sacral block. The ulcerated area as seen through the cystoscope will be covered with a dirty grey slimy material containing gritty substance. There are two types of encrustations noted; the flat which adhered closely to the mucus membrane and is usually about the internal orifice of urethra, is smooth and greyish in appearance. The elevated or tumor type is due to the precipitation of the urinary salts into the ulcer and mucus attached to the ulcer.

The flat type of incrustation is differentiated from the leuko-placia by the grating sensation of the instrument striking the bladder wall. Often ulcerative neoplasm of the bladder contains incrustation, and the elevated type may resemble this condition so closely that a biopsy is necessary for differentiating between the two conditions. However, in neoplasm the incrustations are usually not so large and are easily removed.

PATHOLOGY

As previously stated there is an intense cystitis present with ulceration covered by a dirty, greyish, gritty material when removed leaves an irregular punched out ulcer. The bladder capacity is small. The ureteral orifices are difficult to locate, often requiring intravenous injection of the indigo-carmin to locate. Upon catheterization of the ureters a chronic pyelonephritis is usually found, but the proteus is

rarely present in the upper tract infection.

TREATMENT

The methods of treatment advocated have been many which usually indicates that no one treatment is entirely satisfactory. The administration of drugs to produce an acid urine has been of little value as it has been found impossible to keep the bladder urine reaction acid in the presence of *protieus ammonae*. Some have advocated supra-pubic cystomy and curetting the ulcerations and incrustations, painting the raw surface with nitrate of silver solution, then allowing the bladder to drain supra-pubically for some time. The attempt by Caulk and others to introduce pathogenic bacteria into the bladder that produce acid reaction, has so far given the best results, this acid reaction preventing the precipitation of the phosphates. He irrigates the bladder to remove as much of the mucus as possible, then instills a few drams of fresh culture of Bulgarian-Bacillus into the bladder, having the patient retain it for fifteen or twenty minutes. This method of treatment has so far given the best results in our hands.

The removal of the incrustation at the time becomes difficult as the bladder capacity is frequently small. The use of fulguration on low current will aid in cleansing the ulcerated

area. The shaggy, greyish material becomes adherent to the electrode and when the electrode is removed takes with it most of the material covering the ulceration, leaving a fairly clean surface for treatment.

Irrigations should be done daily and hydrosstatic dilatation of the bladder begun as soon as possible. At first this should be done by simply elevating the irrigation reservoir a few inches higher than used in ordinary bladder irrigations. As the bladder heals, stronger pressure may be given by a bulb syringe until the normal bladder capacity is restored.

The possibility of bacteriophage is to be considered and at present we are trying to find a phage that will act upon *protieus ammonae*.

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Our State Sanatorium



Administration Building. Mississippi State Tuberculosis Sanitarium.

The 1916 session of the Legislature created the Tuberculosis Sanatorium as a part of the State Health work, placing it under the control of the State Board of Health and designating it as the Bureau of Tuberculosis of the State Health Department. They made an appropriate

tion of \$25,000.00 to start it with. On February 4, 1918, they had completed two small buildings for patients, and the first patients were admitted on that day. The results for the first year were so encouraging that it did away with a lot of the belief that climate played

any great part in the treatment of tuberculosis.

The legislature of 1920 appropriated \$1,500,000.00 to enlarge the institution. Since that time there has been appropriated for enlargement about \$400.00.00, making the total cost of the plant now approximately \$1,900,000.00.

It was realized in the beginning that Mississippi could not hospitalize all of the tuberculous cases; being a poor state it would be obviously impossible to finance it. Therefore, in the creation of the institution the law stated that the Board of Health should make it as nearly self-sustaining as was possible commensurate with the needs of the state. Since its beginning the Board has realized that a great part of its work and advantage to the state would be its educational value, and that it would be necessary to take only the so-called curable case and that these, in a measure, should be selected and distributed to every section of the state. This rule has been adhered to as rigidly as possible by the administration. There has never been a time since the institution started that they did not have a waiting list. Neither has there been a time when they did not have as many as 10,000 active cases of tuberculosis in the state. With a maximum bed capacity of 480, and for the last four years a legislative appropriation that would not enable the institution to operate more than three hundred beds, it is understandable that there would be a great deal of confusion as to the admission of the comparatively few cases that can be taken. However, during this time the policy of the Board has proved its effectiveness in that 1918 deaths were almost 3,000 in the entire state and each succeeding year has seen the deaths drop until the deaths of 1934

were less than 1200, and there could be no greater proof of the soundness of the educational policy than this tremendous saving of life.

The institution has been maintained at its highest efficiency and commands the respect and admiration of the entire world. It is one of the few sanatoria in the country that is classed, graded, and given certificate of efficiency by the American College of Surgeons, and Mississippi should well be proud of this distinction. In addition to the treatment in the institution there is also a consultation department where the physicians of Mississippi can send their patients regardless of their financial condition for a complete examination and diagnosis, thus enabling the physicians to give to their patients a highclass service which would be beyond the reach of the average patient were it not conducted as a part of this institution and through this clinic the physicians have been able to locate cases with early disease where they are still curable, and in a reasonably short time. The institution also maintains postgraduate service and study for the physicians of Mississippi, maintaining rooms and board where they can go and perfect themselves in the examination and diagnosis of early tuberculous disease; also its treatment in all of its modern aspects.

NURSING SERVICE

The institution has maintained for the last three years a postgraduate nursing school where the trained nurses of Mississippi are permitted to go and take a full postgraduate course of six months in the prevention and nursing of tuberculous individuals. This department the institution feels is a very valuable adjunct to



Preventorium and Chapel, Mississippi State Tuberculosis Sanitarium.

the prevention program, and a very helpful asset to the medical profession of Mississippi, where these nurses are returned to their local fields capable of carrying out intelligently the instructions of their family physician in the handling of his individual cases.

THE PREVENTORIUM

This department was organized in 1929, and is a definite all-time service, with one of the most modern buildings in the whole country. In this the institution takes the exposed, underweight, underdeveloped child who, the institution believes, within a short time would become a victim of the disease were he left alone, and rebuilds him to normal health teaching him at the same time in his early life what steps are necessary for any individual to live a long and healthy life. This work has proved its value in the fact that to date the institution for the treatment of active tuberculous disease has not had a single application from any of the children who have gone through the Preventorium and been instructed in how to live, and the institution feels within the next decade a marked improvement in the continually lowering death rate will be seen.

FIELD SERVICE

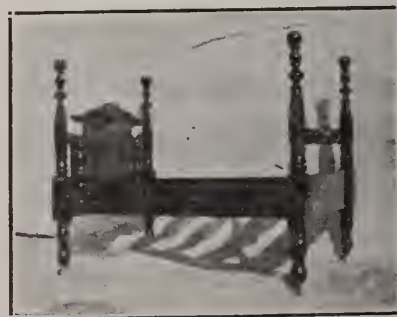
Two years ago the institution employed a field consultant whose duty it is to hold clinics in cooperation with the medical profession of the various counties of the state, examining only those cases referred to him by the individual physician. He carries with him portable X-ray equipment and makes a complete examination by X-ray where the patient is unable to have such service at a private laboratory. This work has proved to be one of the most popular in the whole state health service, and the demands now are so great that it would require the services of two or three men to comply with them. After he makes his examinations the reports are made direct to the family physician and whatever aid can be given to the individual patient is given through the individual physician who refers the patient to the consultant. It is hoped that this service will be worthwhile to the medical profession of the state and reflect its value to the individual citizenship.

THE FUTURE OF THE INSTITUTION

The modern progress of the treatment of tuberculosis in the past few years has developed rapidly in the surgical field, and the institution hopes that within the year a complete surgical unit can be installed and the patients of Mississippi, regardless of their wealth, can be given the most modern treatment that is now available, and that the medical profession of the state, including the general hospitals, will have the advantage of this particular field of work. There are few trained chest surgeons in the United States, but the institution feels

that it will have available one of the best trained men in the whole country and that it will be able to render the service to the poorer class of people in Mississippi that will be invaluable in the saving of life and invaluable to the sanatorium in the shortening of the stay of the individual patient in the institution. It is also hoped by the institution that with this development the general hospitals of Mississippi will cooperate in providing in their own institutions certain facilities for handling a few tuberculous individuals where they can be treated locally and where, in addition to the local advantage to the individual citizenship, it will provide a high class training for the nurses in the various training schools, and an experience to the medical staffs of hospitals in the modern treatment and prevention of this particular disease. To this end the State Sanatorium hopes that they will be able to cooperate in a field service way from the surgical viewpoint and that the coordination of the work with all of the hospitals will aid materially to the future control of this, a preventable, disease.

In closing out its eighteenth year of service the institution looks back with pride and the board of control with happiness to the thousands of people who have been restored to health; to the thousands of homes which have been made happy by the return of loved ones, and to the additional thousands of homes that have been kept happy by the constant reduction in deaths, and looks forward to the future with the hope and ambition that a disease that has claimed more lives than all of the wars of history, that has caused more unhappiness than any known weapon of the angel of death, and that has caused greater economic loss than any individual cause of history, will be completely eradicated not only in our state, but also from every country of the world.



Furniture of solid walnut, hand workmanship by expert cabinet maker. Lasting quality and beauty is attained in furniture by

P. B. L. TAYLOR
Booneville, Mississippi

MISSISSIPPI NEWS

Mississippi State Medical Association

The City of Greenville—all its civic bodies and the Medical Fraternity of Washington County invite you to the Mississippi State Medical Association and State Hospital Association Meetings on May fourth to seventh, Nineteen-hundred thirty-six, Greenville, Miss. An excellent scientific program and many other features for your entertainment. Bring your golf clubs, round robin tournament. Greenville, Jan. 9, 1936.

DIRECTORY AND CALENDAR OF MEDICAL SOCIETIES

Information is not complete. Secretaries of societies are urged to send in full data so that it may be known when the societies of the state meet; also the names of the officers directing their activities this year should be shown.

ADAMS COUNTY MEDICAL SOCIETY: W. K. Stowers, Natchez, president; F. S. Dixon, Natchez, secretary. Meets third Tuesday each month. Natchez, 7:30 p. m.

AMITE COUNTY MEDICAL SOCIETY: D. H. Thornhill, Crosby, secretary.

CENTRAL MEDICAL SOCIETY: E. L. Walker, Magee, president; L. W. Long, Jackson, secretary. Meets third Tuesday each month, Robert E. Lee Hotel Roof, Jackson, 7:00 p. m.

CLAIBORNE COUNTY MEDICAL SOCIETY: E. P. Jones, Hermanville, president; G. W. Acker, Port Gibson, secretary.

CLARKSDALE AND SIX COUNTIES MEDICAL SOCIETY: D. O. Pierce, Jonestown, president; N. C. Knight, Clarksdale, secretary. Meets fourth Wednesday of March and second Wednesday of November, Elks Club, Clarksdale, 2 p. m.

CLARK-WAYNE COUNTIES MEDICAL SOCIETY: W. P. Gray, Waynesboro, president; Albert Hand, Shubuta, secretary.

COAHOMA COUNTY MEDICAL SOCIETY: J. A. Slack, Friars Point, president; N. C. Knight, Clarksdale, secretary. Meets second Wednesday each month, Clarksdale Hospital, 1:30 p. m.

DELTA MEDICAL SOCIETY: J. W. Lucas, Moorhead, president; F. M. Acree, Greenville, secretary. Meets second Wednesday of April and October. Rotates through five counties, 2 p. m.

DESOTO COUNTY MEDICAL SOCIETY: A. J. Weissinger, Hernando, president; L. L. Minor, Route 4, Memphis, secretary. Meets first Monday of January, April, July, October, Hernando, 10 a. m.

EAST MISSISSIPPI MEDICAL SOCIETY: C. H. Gully, DeKalb, president; T. L. Bennett, Meridian, secretary. Next meeting, Meridian, March 5, 1936.

FRANKLIN COUNTY MEDICAL SOCIETY: L. Costley, Meadville, secretary.

HANCOCK COUNTY MEDICAL SOCIETY: A. P. Smith, Bay St. Louis, secretary.

HARRISON COUNTY MEDICAL SOCIETY: H. K. ROUSE, Lyman, secretary.

HOMOCHITTO VALLEY MEDICAL SOCIETY: Lucien S. Gaudet, Natchez, president; W. K. Stowers, Natchez, secretary. Meets January, April, July and October, 2 p. m.

ISSAQUENA-SHARKEY-WARREN COUN-

TIES MEDICAL SOCIETY: T. P. Sparks, Jr., Vicksburg, president; Leon S. Lippincott, Vicksburg, secretary. Meets second Tuesday each month, Elks Club, Vicksburg, 7 p. m.

JACKSON COUNTY MEDICAL SOCIETY: W. J. Weatherford, Pascagoula, president; R. G. Lander, Pascagoula, secretary. Meets second Thursday of March, June, September and December. Jackson County Hospital, Pascagoula, 7:00 p. m.

JEFFERSON COUNTY MEDICAL SOCIETY: W. T. Harper, Fayette, secretary.

NEWTON COUNTY MEDICAL SOCIETY: W. T. Pennington, Decatur, president; Dudley Stennis, Newton, secretary.

NORTH MISSISSIPPI MEDICAL SOCIETY: R. G. Grant, Holly Springs, president; A. H. Little, Oxford, secretary.

NORTHEAST MISSISSIPPI 13 COUNTIES MEDICAL SOCIETY: Z. A. Dorsey, Troy, president; A. J. Stacy, Tupelo, secretary. Next meeting Starkville, March.

PIKE COUNTY MEDICAL SOCIETY: J. L. Bauer, McComb, president; Elise Rutledge, McComb, secretary. Meets first Thursday each month, McComb 6:30 p. m.

PONTOTOC COUNTY MEDICAL SOCIETY: L. O. Carruth, Tupelo, R.F.D., president; O. F. Carr, Pontotoc, secretary. Meets first Tuesday each month, Pontotoc.

SOUTH MISSISSIPPI MEDICAL SOCIETY: J. Gould Gardner, Columbia, president; F. T. Bower, Hattiesburg, secretary.

W. Green, Wiggins, secretary. Meets with Har-

STONE COUNT YMEDICAL SOCIETY: Earl rison-Stone-Hancock Counties Medical Society.

TATE COUNTY MEDICAL SOCIETY: W. D. Smith, Senatobia, president; J. Sidney Eason, Coldwater, secretary. Meets second Wednesday each month, Senatobia.

TRI-COUNTY MEDICAL SOCIETY: H. R. Fairfax, Brooklyn, president; R. B. Zeller, Hazlehurst, secretary. Meets second Tuesday of March, Copiah-Lincoln Junior College, Wesson; June, Walthal Hotel, Tybertown; September, Riverside Hotel, Monticello; December, Whitworth College, Brookhaven 12:30 p. m.

WILKINSON COUNTY MEDICAL SOCIETY: E. M. Butler, Centreville, secretary.

WINONA DISTRICT MEDICAL SOCIETY: P. B. Brumby, Lexington, secretary.

MISSISSIPPI HOSPITALS—CALENDAR OF STAFF MEETINGS

ANDERSON INFIRMARY: Second Friday, each month, 6:00 p. m.

BILOXI HOSPITAL: First Friday, each month, 7:30 p. m.

CLARKSDALE HOSPITAL: Second Wednesday, each month, 1:30 p. m.

GEORGE C. HIXON MEMORIAL HOSPITAL: First Monday, each month.

GREENWOOD LEFLORE HOSPITAL: Second Monday, each month, 8 p. m.

HOUSTON HOSPITAL: Last Thursday, each month, 7:30 p. m.

JACKSON COUNTY INFIRMARY: Second Thursday, each month except July and August, 7:00 p. m.

JACKSON INFIRMARY: Last Tuesday, each month, 6 p. m.

MERIDIAN SANTARIUM: Second Thursday, each month, 6:30 p. m.

MISSISSIPPI BAPTIST HOSPITAL: Third Tuesday, each month, 6:30 p. m.

NATCHEZ SANATORIUM: Second Tuesday, each month, 7:30 p. m.

NORTHEAST MISSISSIPPI HOSPITAL: First Monday, each month, 7:30 p. m.

RUSH'S INFIRMARY: Second Thursday, each month, 7:00 p. m.

SOUTH MISSISSIPPI INFIRMARY: Last Thursday, each month 5:00 p. m.

U. S. VETERANS HOSPITAL, GULFPORT: Every Monday, Tuesday, Wednesday and Thursday, 10:45 a. m.

VICKSBURG HOSPITAL: Second Thursday, each month, 7 p. m.

VICKSBURG INFIRMARY: First Wednesday, each month, 7 p. m.

VICKSBURG SANITARIUM: Tenth, or week of tenth, each month, 6:30 p. m.

WINONA INFIRMARY: First Thursday, each month, 7:30 p. m.

POSTGRADUATE COURSE IN OBSTETRICS SEVENTH CIRCUIT

SCHEDULE OF CLASSES

SENATOBIA (DeSoto, Tunica and Tate Counties), Mondays, beginning January 6 at 7:30 p. m. in the Masonic Hall. Local committee in charge of arrangements: Dr. A. J. Weisinger, chairman, Drs. H. F. Byers and Thos. W. Meriweather. Local committee in charge of clinical material: Dr. W. R. Gilbert, chairman, Drs. Mm. D. Smith, H. F. Byers.

BATESVILLE (Quitman and Panola Counties), Tuesdays, beginning Jan. 7 at 1:30 p. m. in American Legion Hall. Local Committee in charge of arrangements: Dr. C. H. Wood, chairman, Drs. Sam McIlwain, A. P. Alexander. Local committee in charge of clinical material: Dr. A. J. McIlwain, chairman, Drs. A. C. Covington, J. P. Walker, J. E. Furr, H. R. Elliott, J. Q. Fountain.

CHARLESTON (Tallahatchie County), Wednesday, beginning Jan. 8. at 1:30 p. m. in the Rotary Club Room. Local committee in charge of arrangements: Dr. D. G. Bardwell, chairman, Drs. J. E. Powell, J. W. Moody. Local committee in charge of clinical material: Dr. J. E. Powell, chairman, Drs. R. D. Byars, Lacy Biles.

GREENWOOD (Leflore County), Thursdays, beginning January 9 at 7:30 p. m. in the County Courthouse. Local committee in charge of arrangements: Dr. L. A. Barnett, chairman, Drs. L. H. Hightower, A. M. Gill. Local committee in charge of clinical material: Dr. L. F. Ferguson, chairman, Drs. W. E. Denman, Sam Brister, Jr.

WINONA (Grenada, Carroll, and Montgomery Counties), Fridays, beginning January 10 at 1:30 p. m. in the County Courthouse. Local committee in charge of arrangements: Dr. J. P. Synnott, chairman, Drs. S. B. Carruthers, C. H. Holman. Local committee in charge of clinical material: Dr. E. W. Holmes, chairman, Drs. T. J. Brown, S. S. Caruthers.

OUTLINE

Each meeting will be approximately two hours in length, the first hour for lectures by the Field Clinician, Dr. Maxwell E. Lapham, of Philadelphia, and the second for clinical demonstrations and round-table discussions. The subjects for the meeting are:

1. Early Diagnosis of Pregnancy.
First Prenatal Examination.
2. Progress of Pregnancy
Prenatal Instructions
Some Complications of Pregnancy.
3. Abortion.

4. Hemorrhage in Pregnancy and Puerperium.
5. Toxemias of Pregnancy.
6. Management of Normal Labor.
7. Some Abnormal Positions and Presentations.
8. Postpartum Care.
Puerperal Complications.
9. Care of the Newborn.
10. Gynecological Complications of Pregnancy.
Final Puerperal Examination.

GENERAL POLICIES OF THE COMMITTEE

The Committee of Postgraduate Medical Education is composed of two members from each of the following organizations: The Mississippi State Medical Association, Tulane University Schools of Medicine, the Mississippi State Board of Health, and one representative from the Mississippi State Hospital Association. This body has been charged by the Mississippi State Medical Association to conduct an instructional program for the physicians at home in subjects such as obstetrics, pediatrics, general medicine, minor surgery, etc., the first year's work being devoted to obstetrics.

The method of instruction adopted by the State Medical Association and the Committee convenient centers to meet for two hours one is the organization of classes of physicians in day a week for ten successive weeks. The fourth centers are Corinth, Booneville, Tupelo, New Albany, and Holly Springs.

The expenses are cared for by an appropriation from the Mississippi State Medical Association, Tulane University Schools of Medicine, The Commonwealth Fund, and the Mississippi State Board of Health. However, the contributing agencies and the Committee felt it advisable to establish at the beginning of the courses the principle of partial self-support by the physicians themselves, and for that reason it set a minimum enrollment fee of three dollars for the course.

PAST COURSES

Over three hundred physicians have participated in this educational undertaking. Attendance has averaged higher than eighty per cent of the previous centers. In scores of written comments on the course, physicians have said the classes were well worth while and they would attend future classes in other branches of medicine if given another opportunity.

FURTHER COURSES

Courses will be organized in circuits to place this educational opportunity within the reach of every Mississippi physician as rapidly as the territory can be served.

The comments and suggestions of the physicians and all members of the Mississippi State Medical Association upon this program are cordially invited.

LICENSED TO PRACTICE

Permanent licenses to practice medicine in Mississippi, by reciprocity with other states, were granted to the following by the Mississippi State Board of Health at its regular meeting on December 5, 1935:

Name	License No.	Address
Beall, Lawrence Lincoln	817	Cleveland
Beck, William R. King	818	Jackson
Berman, Maxwell David	819	Jackson
Morgan, George Washington	820	Gulfport
Powell, John Canada	812	Coldwater
Steele, Henry Danford	822	Biloxi

PROPOSED LEGISLATION

From Legislative Bulletin, No. 30, of the Legislative Reference Committee of the American Hospital Association.

UNITED STATES CONGRESS

H. R. 1985, which has been amended to permit use of tax-free alcohol by clinics operated not for profit, by-products of which are not offered for sale, has passed the House and will be up for vote in the Senate.

Social Security Act.—The Act does not cover agricultural labor, domestic servants, personnel of vessels on navigable waters of the United States, service in employ of the immediate family, service in the employ of the United States, the States or political sub-divisions or their instrumentalities and service with religious, charitable, scientific, literary or educational corporations, operated on a non-profit basis.

STATE LEGISLATURES

—Alabama—

H. 769. To authorize, provide for and regulate non-profit corporations for the establishment, maintenance and furnishing of a plan of hospitalization and hospital service. Passed.

—Mississippi—

H. 10-X. Introduced by May. To provide financial assistance for the relief of needy and indigent sick persons of the State.

"Sec. 1. There is hereby appropriated out of the funds of the State Treasury, not otherwise appropriated, the sum of one million dollars for the erection and equipment of ten State Charity Hospitals, to be located at such places in the State as the legislature may designate and to be used for the needy and indigent sick persons of the State."

S. 106-X. Introduced by Lumpkin. To authorize the Board of Supervisors of Lee County, Miss., to levy an ad valorem tax of not to exceed one mill on the dollar each year on all the taxable property in Lee County, Miss., for the support of a charity ward in North Mississippi Community Hospital to be located in Lee County, Miss.

S. 107-X. Introduced by Lumpkin. To authorize the mayor and Board of Aldermen of the City of Tupelo, Lee County, Miss., to levy an ad valorem tax of not to exceed one mill on the dollar for each year on all the taxable property in the City of Tupelo, Lee County, Miss., for the support of a charity ward in North Mississippi Community Hospital to be located in Lee County, Miss.

Program outline of

THE SOUTHEASTERN SURGICAL CONGRESS
NEW ORLEANS ASSEMBLY

March 9-10-11, 1936—Following Mardi Gras

If you have never attended one of these Assemblies you have missed something. The New Orleans Assembly should be the best one. Don't miss it—Three Full Days—Something doing every minute. Mid-Day Round Table Discussions — Night Session Monday — Banquet Tuesday. The following men will appear on the program with papers and clinics:

Dr. Arthur W. Allen, Boston, Mass.; Dr. Roger Anderson, Seattle, Wash.; Dr. Charles O. Bates, Greenville, S. C.; Dr. W. T. Black, Memphis, Tenn.; Dr. O. P. Board, Birmingham, Ala.; Dr. Guy Caldwell, Shreveport, La.; Dr. Thomas E. Cormody, Denver, Col.; Dr. Virgil S. Counselor, Mayo Clinic; Dr. George W. Crile, Cleveland, Ohio; Dr. Roger G. Doughty, Columbia,

S. C.; Dr. John F. Erdmann, New York, N. Y.; Dr. Edgar Fincher, Jr., Atlanta, Ga.; Dr. Paul G. Flothow, Seattle, Wash.; Dr. Emmerich von Haam, New Orleans, La.; Dr. W. D. Haggard, Nashville, Tenn.; Dr. Arthur Hertzler, Halstead, Kan.; Dr. Gerry Holden, Jacksonville, Fla.; Dr. C. C. Howard, Glasgow, Ky.; Dr. Chevalier Jackson, Philadelphia, Pa.; Dr. Harry H. Kerr, Washington, D. C.; Dr. Joseph E. King, New York, N. Y.; Dr. Francis E. Lejeune, New Orleans, La.; Dr. Jennings Litzenberg, Minneapolis, Minn.; Dr. James S. McLester, Birmingham, Ala.; Dr. Julian A. Moore, Asheville, N. C.; Dr. Fred Rankin, Lexington, Ky.; Dr. J. U. Reaves, Mobile, Ala.; Dr. Curtice Rosser, Dallas, Texas; Dr. Alfred A. Strauss, Chicago, Ill.; Dr. A. Street, Vicksburg, Miss.; Dr. J. W. Tankersley, Greensboro, N. C.; Dr. Alan C. Woods, Baltimore, Md.

If you do not receive a program by the first of march write for one —Dr. B. T. Beasley, Atlanta, Georgia.

ADAMS COUNTY MEDICAL SOCIETY

At the regular monthly meeting of the Adams County Medical Society in January, with eight members present the following officers were elected for the year 1936: President, Dr. W. K. Stowers; Vice-President, Dr. J. G. Logan; Secretary-Treasurer, Dr. F. S. Dixon; Delegate to the Mississippi State Medical Association, Dr. L. S. Gaudet; Alternate, Dr. B. T. Orendorf; Member of Board of Censors, Dr. E. E. Benoist.

LUCIEN S. GAUDET

AMITE COUNTY MEDICAL SOCIETY

and

WILKINSON COUNTY MEDICAL SOCIETY

The Amite County Medical Society met with the Wilkinson County Society at Field Memorial Hospital in Centreville, Thursday, night, Dec. 12. A paper was presented by Dr. R. J. Field on "Pain in the Lower Right Abdominal Quadrant." An interesting paper was also presented by Dr. Miller, of Jackson, La., on certain mental conditions.

Some of the Amite and Wilkinson county doctors are planning to take their wives to Memphis soon to attend the Mid-South Post Graduate Assembly.

D. H. THORNHILL, Secretary.

CENTRAL MEDICAL SOCIETY

The regular monthly meeting was held with a good attendance at the usual meeting place in Jackson. The business of the society was transacted at the first part of the meeting. The physician members of the legislature were present. Invitations were extended to them during their stay in Jackson.

The important part of the business session was the selection of a committee to work with the legislature, the hospital association, and the committee on public health and legislation in a drive toward securing more appropriations for the charity hospital located here, therefore enabling this hospital to be enlarged and to establish a department of pathology, with a part time pathologist at its head, and to equip the hospital for the treatment of malignancies and other diseases which the smaller hospitals over the state are not equipped to take care of. All societies of the state were notified of this action. Following this came the scientific program which was as fol-

lows:

1. Case Report, "Hydronephrosis," N. F. Kendall. Discussion by Dr. L. B. Moseley.

2. Case Report, "Carcinoma of the Tongue," with showing of slides, L. W. Long. Discussion by Dr. Robin Harris.

3. Case Report, "Aneurysm of the Axillary Artery," R. B. McLean. Discussion by T. E. Wilson.

4. Paper, "Five Year End Results In Carcinoma of the Breast," Maxwell Berman. Discussion by H. R. Shands.

The February meeting offers a varied program of case reports on obstetrics, pediatrics and skin diseases and a paper on an eye, ear, nose and throat subject. Every one is invited.

To date of mailing program we have 158 paid-up members of the Central Medical Society. A record. Leake County has 16 members out of a possible 17 and I feel sure that they will soon be 100 per cent.

The program committee has started off with a BANG, thanks to them from the secretary. Keep it up please. Please help to get the remaining men in the society for I am sure we can secure 180 members easily. We believe the Central is the best organized society in the state because our district is the closest united of all.

What do you think of the associate membership idea, allowing an associate membership in the Central Medical Society for \$3.00 per year to those men who live in other districts but desire to come regularly to our meetings and yet want to pay their way as they go?

OFFICERS AND COMMITTEES FOR 1936

President, E. L. Walker, Magee; Vice Presidents, Hinds County, J. C. Walker, Leake County, W. S. Martin, Madison County, A. P. Durfey, Rankin County, W. H. Watson, Simpson County, E. C. Walker, Scott County, W. E. Anderson, Yazoo County, S. H. Woods; Secretary, L. W. Long, Jackson; Treasurer, N. F. Kendall, Jackson. Delegates to the Mississippi State Medical Association: Hinds County, E. L. Green, alternate George E. Akins, L. W. Long, alternate N. C. Womack; Leake County, F. L. Brantley, alternate K. P. Wood; Madison County, J. B. Howell, alternate I. Edwards; Rankin County, J. B. Ainsworth, alternate H. N. Holyfield; Scott County, R. B. Austin, alternate W. E. Anderson; Simpson County, A. E. Kennedy, alternate W. W. Diamond; Yazoo County, H. E. Frizell, alternate J. T. Rainer. Board of Censors, D. W. Jones, Chairman; W. H. Watson, L. W. Long. Program Committee, H. F. Garrison, Chairman; George Owen, T. G. Wilson, Robin Harris, W. F. Hand. Public Health Committee, W. E. Noblin, Chairman; A. P. Durfey, J. B. Ainsworth, R. B. Austin, S. L. Knight, Gilruth Darrington, W. H. Martin. Membership Committee, R. W. Hall, Chairman; J. P. Wall, J. W. Barksdale. Executive Committee, W. B. Dobson, E. L. Walker, D. W. Jones, W. E. Noblin, H. F. Garrison, R. W. Hall.

L. W. LONG, Secretary.

COAHOMA COUNTY MEDICAL SOCIETY AND CLARKSDALE HOSPITAL MEDICAL STAFF

The Coahoma County Medical Society and the Clarksdale Hospital Medical Staff met in regular monthly meeting Jan. 8 at the Clarksdale Hospital, 1:30 p. m. The meeting was called to order by the president, Dr. W. S. Slaughter, who ordered the secretary to call the roll and read the minutes of the previous

meeting, the minutes being adopted as read.

Dr. W. H. Brandon then made a talk asking the doctors to see and write their representatives and senator of the present session of the Mississippi Legislature and strongly urge them to support the bill relative to changes in the state hospital system which will be introduced by the chairman of the Committee on Public Policy and Legislation of the State Medical Association, during the present session of the Legislature. Dr. Brandon explained the essential parts of the bill. After a full discussion of this bill by all members present, Dr. E. LeRoy Wilkins made a motion that the secretary be instructed to write the senator and representatives of this county soliciting their aid in getting this bill passed, on behalf of all physicians of Coahoma County Medical Society. Motion seconded by Dr. W. H. Brandon and carried unanimously.

The next order of business being election of officers for 1936 same resulted as follows: President, Dr. J. A. Slack, Friars Point; Vice-President, Dr. T. G. Hughes, Clarksdale; Secretary and Treasurer, Dr. N. C. Knight, Clarksdale.

Dr. J. A. Slack then made a motion which was seconded by Dr. W. H. Brandon, and carried, to postpone election of the Relations Committee until next month.

The county health officer, Dr. N. C. Knight, then announced that the next Tuberculosis Diagnostic Clinic will be held in Clarksdale the week beginning March 16 by Dr. Wm. D. Hickerson, eld clinician of the State Sanatorium.

The scientific session being next in order same was immediately entered into as follows:

Case Report, Dr. E. LeRoy Wilkins, Clarksdale. Discussed by Dr. J. L. Levy.

"Hypotension," Dr. W. H. Brandon, Clarksdale. Discussed by Drs. Levy, Barrett, Slack. Closed by Dr. Brandon.

"Use of Antiseptics in Obstetrics," Dr. E. P. Sale, Aberdeen.

1886—Read by Dr. T. M. Dye.

There being no other business the Society adjourned.

N. C. KNIGHT, Secretary.

FRANKLIN COUNTY MEDICAL SOCIETY

The doctors of Franklin County held their regular quarterly meeting Jan. 8 at Quantis, with Dr. S. R. Townes. Those present were: McGehee, Everett and Mullins of Bude, Costly of Meadville and Townes of Quentin.

After discussing various subjects the Society reaffirmed its objection to any effort on the part of the F.H.A. let out its work on a contract basis.

Dr. A. C. Lofton of Lucien is confined to his home with a mild attack of influenza.

S. R. TOWNS, County Editor.

HOMOCHITTO VALLEY MEDICAL SOCIETY

The Homichitto Valley Medical Society held its quarterly meeting in Natchez, Jan. 8 at 2 p. m. There was a nice attendance and several guests.

Dr. G. C. Jarratt, Vicksburg, read a most interesting and well received paper on "Pyuria in Children," which was freely discussed and augmented by lantern slides.

On motion made and passed, the Society extends to the ladies of the Homichitto Valley Medical Auxiliary a cordial invitation to dine with us at our regular meeting.

LUCIEN S. GAUDET, President.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

A regular monthly meeting of the Issaquena-Sharkey-Warren Counties Medical Society was held January 14 at the Elks Club, Vicksburg. After a supper at 7 p. m., the meeting was called to order by the president, Dr. T. P. Sparks, Jr.

Reports and recommendations from the officers and committees of 1935 were presented as follows: President, Dr. F. Michael Smith; Vice-Presidents, Drs. H. S. Goodman and H. H. Johnston; Secretary and Treasurer, Dr. Leon S. Lippincott; Membership Committee, Dr. H. S. Goodman; Committee on Public Health and Legislation, Drs. E. H. Jones and W. C. Pool.

1. Comparison of Fee Schedules and Collections in 1932 and Now.—Drs. W. C. Pool, E. H. Jones and H. S. Goodman.

2. Should the Doctor Be Paid?—Drs. H. B. Goodman and W. K. Purks.

3. Hospital Costs in Relation to the Present Economic Regime.—Drs. W. H. Parsons and L. S. Lippincott.

The Secretary's report showed a membership of forty for 1935 with eleven regular meetings. The attendance was members, 209; average 19; guests 88; average 11; total 297; average 30. Papers were presented by 15 members and 12 guests. The average attendance of members for the year was 49.4%.

The program for the year of 1936 was presented as follows:

Feb. 11. Eye, Ear, Nose and Throat: Committee, Drs. E. H. Jones, Chairman; C. J. Edwards, H. H. Johnston.

March 10. Obstetrics and Gynecology: Committee, Drs. I. C. Knox, chairman; G. M. Street, J. A. K. Birchett, R. A. Street, Jr.

April 14. Internal Medicine: Committee, Drs. L. J. Clark, chairman; W. K. Purks, H. S. Goodman, D. P. Street, J. S. Ewing.

June 9. Pediatrics: Committee, Drs. W. P. Robert, chairman; G. C. Jarratt, N. B. Lewis, H. B. Wilson.

July 14. Urology: Committee, Drs. B. B. Martin, Jr., chairman; M. J. Few, H. B. Goodman, G. P. Sanderson.

Aug. 11. General Practice: Committee, Drs. E. B. Stribling, chairman; J. B. Benton, G. W. Gaines, H. H. Haralson; W. A. Smith, W. E. Johnston.

Sept. 8. Surgery: Committee, Drs. A. Street, chairman; J. A. K. Birchett, Jr.; S. W. Johnston, W. H. Parsons, B. B. Martin.

Oct. 13. Radiology: Committee, Drs. P. G. Herring, chairman; W. C. Pool, D. A. Pettit.

Nov. 10. Public Health: Committee, Drs. F. M. Smith, chairman; A. K. Barrier, W. H. Scudder, T. W. Huey.

Dec. 9. Annual meeting.

President Sparks appointed a committee on Public Health and Legislation as follows: Drs. W. C. Pool, W. H. Scudder, F. M. Smith.

LEON S. LIPPINCOTT, Secretary.

JACKSON COUNTY MEDICAL SOCIETY

At the December meeting of the Jackson County Medical Society, the following officers were elected to serve during the ensuing year:

Dr. W. J. Weatherford, Pascagoula, president; Dr. H. M. Burnham, Moss Point, vice-president; Dr. R. L. Lander, Pascagoula, secretary-treasurer; Dr. S. B. McIlwain, Pascagoula, delegate.

Out of fourteen doctors, in the county, eleven

paid their membership for 1936, and one of the others is a negro physician.

R. G. LANDER, Secretary.

NEWTON COUNTY MEDICAL SOCIETY

Resolutions introduced and unanimously adopted by the Newton County Medical Society at the Decatur, December, 1935 meeting:

Resolved, that the secretary be instructed to thank the Commonwealth Foundation of New York and the State Board of Health for securing the services of Dr. Maxwell E. Lapham to give a course of lectures on obstetrics.

Every member who was fortunate enough to hear those lectures expressed himself as very much benefited by same and sincerely hopes we will be able to get a course of lectures on some other subject during the coming year.

Resolved that this resolution be spread upon the minutes of said Society, a copy be sent to Commonwealth Foundation, New York, to the State Board of Health, Dr. Leon Lippincott, Editor, Mississippi Doctor, and Dr. Maxwell E. Lapham, headquarters Jackson.

DUDLEY STENNIS, Secretary.

NORTH MISSISSIPPI MEDICAL SOCIETY

The quarterly meeting of the North Mississippi Medical Society was held at New Albany, Wednesday, January 15, beginning at 12 o'clock noon in the Baptist church. The program as announced by Dr. A. H. Little, secretary, Oxford, was as follows:

12:00 Noon—

Invocation.

Luncheon

1:15 p. m.—

Minutes of Preceding Meeting and Other Business.

"Deficiency Syndrome in America." Dr. J. S. McLester, Birmingham, Ala., President of the American Medical Association.

Ten Minutes Talks:

(a) "Cervical Conization and Sub-total Hysterectomy," Dr. George Brown, Water Valley, Miss.

(b) "Treatment of Herpes Zoster," Dr. R. G. Grant, Holly Springs, Miss.

(c) "Some Thoughts on Gynecology," Dr. S. E. Eason, New Albany, Miss.

(d) Dr. P. W. Rowland, Oxford, Miss.

"Tumors in the Breast—Benign and Malignant," Dr. Frank Ward Smythe, Memphis, Tenn. Dr. R. G. Grant, president, Holly Springs, presided.

PONTOTOC COUNTY MEDICAL SOCIETY

Pontotoc County Medical Society met in regular session in Pontotoc, Tuesday, Jan. 7. The out of town essayist was Dr. P. W. Rowland, Oxford. His subject was "Therapeutic Heart," and as usual, he handled it well. We had 16 doctors present and they all seemed to enjoy themselves and felt that they had learned something worth while.

We are beginning our third year in the Pontotoc County Medical Society and feel that we have one of the best, if not the best, county organizations in the state. At our December meeting we elected Dr. L. O. Carruth, Tupelo, Rt. 3, as president; Dr. C. W. Patterson, Houlika, Rt. 3, as vice-president and Dr. O. F. Carr, Pontotoc, secretary.

R. P. DONALDSON

RESOLUTIONS

Adopted at the regular meeting of the South Mississippi Medical Society Dec. 12, 1935.

Whereas, on September 29, 1933, the hand of death touched Dr. T. E. Ross and took him from our midst, and desiring to express appreciation of his life and grief at his death, and to make a record thereof; and

Whereas, Doctor Ross, during the forty-seven years in which he practiced his profession, strove always to uphold the precepts laid down by Hippocrates, conducting himself in a manner which reflected credit upon his chosen profession; and

Whereas, he not only rendered a real and lasting service to the medical profession, but to his community and his state, in that he was very actively identified with religious, educational and civic advancement, carving for himself a name which embodied strength, integrity and courage;

Now, therefore, Be It Resolved, that the South Mississippi Medical Society in the death of Doctor Ross, has lost one of its beloved leaders and members, and that the society as individuals have lost a friend and confrere, and that we express our deep and sincere grief at his passing and extend to his family and abiding sympathy.

Be it further Resolved, that these resolutions be recorded upon the minutes of the society and that a copy be sent to the family of Doctor Ross.

R. H. CLARK
F. T. BOWER
J. G. GARDNER, Movants

ADAMS COUNTY

Dr. and Mrs. Homer Whittington are the happy parents of a little daughter, Rena Jean, who arrived Dec. 22, 1935. All best wishes to the young lady.

Dr. and Mrs. J. W. D. Dicks spent the Yuletide season with their children in Old Hickory, Tenn.

It is with regret we chronicle the death of Dr. W. H. Lewis, Fayette, who died Monday, Jan. 6 of pneumonia. The passing of Dr. Lewis deprives the Homochitto Valley Medical Society and the medical profession of a staunch, loyal and ethical member who was ever ready to please for the advancement of medicine and surgery. The sympathy of all goes to his dear wife and family in their great loss.

LUCIEN S. GAUDET, County Editor.

COAHOMA COUNTY

Dr. and Mrs. D. H. Raney and family spent several days during Christmas with relatives in Meridian.

Dr. E. LeRoy Wilkins, Clarksdale, had all his family at home with him for Christmas. His daughter is attending "Ole Miss" this session where she is a junior.

Dr. and Mrs. N. C. Knight and son, Norris, Junior, visited Dr. Knight's relatives, Dr. and Mrs. S. L. Knight and family in Mendenhall during the holidays.

Dr. I. W. Barrett was a business visitor in Memphis several times during the month.

Work is progressing nicely on the new modernistic clinic building of Dr. I. W. Barrett's and it is beginning to look very much mod-

ernistic and "New Yorky." It will probably be completed and ready for occupancy during the next two months.

Miss Mercedes McConnell, Miss Abbie G. Hall, Mr. and Mrs. Lorenzo MaCaleb, and Dr. and Mrs. N. C. Knight, all of Coahoma County Health Department, were visitors in Jackson during the holidays.

N. C. KNIGHT, County Editor

DESOTO COUNTY

At the January meeting of the DeSoto County Medical Society the 1935 officers were re-elected: Dr. A. J. Weissinger, Hernando, president; Dr. J. M. Wright, Hernando, vice-president; and Dr. L. L. Minor, Route 4, Memphis, Tenn., secretary-treasurer and editor. The censors are Drs. D. C. Funderburke, A. V. Richmond and A. L. Emerson; there also constitute the medico-legal committee.

There is a probability of this society and the Tate County Society uniting with the North Mississippi Medical Society. The Council will act on this matter at the Greenville meeting in May; until then, however, they will continue as heretofore.

The first meeting of the instructional class in obstetrics was held in Senatobia Jan. 6. Dr. Lapham's lecture on "Early Diagnosis of Pregnancy" was very fine. It is needless to say that these lectures are beneficial and are to be encouraged.

We are firmly of the opinion that Dr. Anderson of "The Mississippi Doctor" is giving us a superior journal that will meet our every medical need.

We not with satisfaction that the ladies of the Second Councilor District are active in forming an auxiliary, this is as it should be. We wish it success in every respect.

L. L. MINOR, County Editor.

LAMAR COUNTY

Dr. L. L. Polk is up and actively working following an attack of influenza that confined him to his bed for eight days.

Mrs. L. L. Polk was called home from a holiday visit to her son in San Antonio, Texas, to the bedside of her husband, Dr. Polk.

Dr. D. J. Duboise, Lumberton, has located in Purvis and is doing a very active practice.

We are making an active campaign to enroll the doctors of this county in the South Mississippi Medical Society.

L. L. POLK, County Editor.

LEFLORE COUNTY

Dr. and Mrs. C. F. Freeland, Glendora, and Dr. and Mrs. B. B. Harper, Itta Bena, were dinner guests of Dr. and Mrs. A. F. Charlton, Berclair, Dec. 2.

Dr. T. M. Riddell, Swiftown, was a patient in the Greenwood Leflore hospital a few days in the early part of December.

Dr. Horton F. Casparis, Nashville, professor of pediatrics at Vanderbilt, addressed the Regional Conference for Public Health Nurses at Greenwood, Dec. 6. Drs. J. A. Milne and A. L. Gray of the State Board of Health were also present and spoke.

Dr. C. N. D. Campbell, Sumrall, visited his old home here Dec. 7.

Dr. and Mrs. W. G. Tabb visited Memphis, Tenn., Dec. 8.

Dr. John D. Melburn, East Hampton, Conn.,

transacted business in Greenwood Dec. 12, while visiting his cotton plantation near Minter City.

Dr. and Mrs. R. L. Segrest, Wisner, La., visited in the home of the latter's brother, Mr. S. I. Osborn, on their way to Nashville for the holidays.

W. E. Denman, Jr., student in the Medical Department, University of Tennessee, spent the holidays here in the home of his parents, Dr. and Mrs. W. E. Denman.

Dr. R. B. Yates visited Memphis, Tenn., Dec. 23.

Dr. Fred Sandifer, Charity Hospital, New Orleans, visited in the home of his parents, Dr. and Mrs. F. M. Sandifer, Greenwood, during the holidays.

Dr. Jesse Hightower, Tulane, son of Dr. and Mrs. L. F. Hightower, Itta Bena, spent Xmas at Itta Bena with home folks.

Dr. G. Y. Gillespie, Jr., Greenwood, spent Xmas day with his father at Duck Hill.

Dr. L. A. Barnett spent Dec. 30 with his brother at the Baptist Hospital in Memphis. He was very sick with pneumonia, but is very much improved.

Mrs. Brister, wife of Dr. S. L. Brister, Sr., has been quite sick with pneumonia, but, we are glad to say that she is very much better at this time.

Mrs. Margaret Bates Cunningham, daughter of Dr. and Mrs. J. P. Bates, Greenwood, died at her home here, Jan. 4 after a lingering illness. She was the wife of Dr. Hiram Cunningham, dentist of this city. She leaves a daughter also.

W. B. DICKINS, County Editor.

PANOLA COUNTY

Dr. E. L. Harper, Como, spent a few hours in Batesville one day last week. All the physicians we have heard from have plenty time for almost any kind of engagement, professional, of course, preferred.

Dr. H. R. Elliott is the busiest man making trips to Greenwood, Jackson and Poplarville to keep in touch with PWA work and estertaining the job hunters with mostly promises.

Dr. Spencer Wood, New Orleans, visited his father in Batesville during the week before Xmas and his brother, Mr. Jack Wood, Rose-dale, met him at the old home.

G. H. WOOD, County Editor.

PONTOTOC COUNTY

At the meeting of the Northeast Mississippi Thirteen County Medical Society in Tupelo, Dec. 17, Dr. Z. A. Dorsey, Troy, was elected president for this year, R. P. Donaldson, Pont-toc, vice-president and Dr. A. J. Stacy, Tu-pelo, secretary.

We are glad to report that Dr. J. D. Neel, Ecu, is recovering from an automobile accident which occurred Dec. 11, 1935.

We are sorry to report the illness of Dr. J. H. Windham, Ecu, and hope he will soon be in harness again.

R. P. DONALDSON, County Editor

WINSTON COUNTY

Dr. W. W. Hickman, Noxapater, has been quite ill but we are glad to note he has improved.

We regret to hear of the death of Mr. Bob Hickman, Noxapater, a brother of Drs. W. W. and J. S. Hickman, the latter of Philadelphia.

Dr. W. W. Parks of the city has been sick with a cold and we are glad to see him out

again.

Dr. C. A. Kirk, Fearn Springs, was in the city this week.

Dr. T. C. Suttle, Dr. E. Lovorn and Mr. Mable Kerr were appointed as a committee to look after the disabled under the ERA set-up.

M. L. MONTGOMERY, County Editor

WARREN COUNTY

Dr. John W. Whitney, son of Mr. and Mrs. P. K. Whitney, of this city, is now associated with the Vicksburg Infirmary as pathologist and director of the laboratory. Dr. Whitney is a graduate of Tulane University Medical Department, and after graduation we are advised he served on the staff of Dr. Mausser of the Department of Pathology, Charity Hospital, New Orleans.

The director of county health work for the State Board of Health, Dr. H. C. Ricks, was in Vicksburg one day this month, inspecting and consulting with the workers in this department.

The many friends of our state editor, Dr. Leon S. Lippincott, will hear with unfeigned regret of his recent sorrow in the death of his mother. Dr. Lippincott was called to the old home in Maine when she was taken ill, but the end was near, the vigil was not long, for "God's finger touched her and she slept."

Dr. and Mrs. F. Michael Smith, with the son, F. M. Jr., made a visit to Kilmichael, his boy-hood home.

We were mighty glad to see all you fellows who came over to the annual meeting of the Issaquena-Sharkey-Warren Counties Medical Society. We were proud of the attendance which was a total of 87 including 30 members and 57 visitors. We enjoyed having you. Dr. Tom Sparks was elected president of this society for the year 1936. We venture the prophecy that he will make a pattern for presidents. Tommie is quoted as having said of our recent annual meeting that "It is the best one we have ever had, with the exception of the one next year"—his year.

This month our pleasing persuasive, possessive, potential, promising and progressive pediatrician, Dr. Guy C. Jarratt, took his "kit" of infantile magic and exhibited same to the Homochitto Valley Medical Society much to its entertainment and edification, so we are advised. Dr. Guy reports a most enjoyable trip and fellowship with our fraternal brothers of this adjacent medical society, while on this visit as guest essayist at a recent meeting.

H. T. IMS, County Editor

WASHINGTON COUNTY

Dr. T. L. Dobson, Leland, spent a few days in Hot Springs, Ark., before going to New Orleans for postgraduate work of six weeks at Tulane Medical School. He will return to his office and resume his practice about Feb. 1.

Dr. and Mrs. S. L. Lane and children, Hollandale, visited Memphis during the Christmas holidays.

Dr. W. P. Shackleford, Hollandale, was a recent visitor in Memphis.

Dr. William Hickerman, Sanatorium, conducted a chest clinic in Washington County the first of the week in January. He held clinics in Greenville, Glen Allen, Hollandale and Leland. On his previous visit to Washington County Dr. Hickerman examined 52 persons in three districts, 32 in Greenville, 12 in Leland and 8 in

Hollandale. The examinations revealed 14 positive cases in Greenville, 7 adults and 7 childhood, 4 adults at Hollandale and 1 childhood case, 3 adults and 1 childhood case in Leland.

Two Greenville youths have completed a successful season as members of the 1935 football squad of Georgia Military Academy, College Park, Ga. These young men are Cadet J. T. Beals, son of Dr. and Mrs. J. A. Beals, and Cadet D. L. Smythe, son of the late Dr. J. D. Smythe.

Mr. and Mrs. Joe Gee, Carrollton, were house guests of Mr. and Mrs. R. H. Lake and Dr. and Mrs. John Lucas, Greenville, for the Christmas holidays.

Mr. and Mrs. R. H. Lake, Dr. and Mrs. John Lucas, Mr. and Mrs. Harold Council and Mr. and Mrs. A. F. Toler, Greenville, entertained about a hundred guests at the Country Club. The honorees were Mr. and Mrs. Joe Gee, Carrollton, Mr. and Mrs. Eben Wortham, Nashville, Tenn., and Miss Gladys Reichman, Memphis, Tenn.

Dr. D. C. Montgomery and Cameron, Jr., Greenville, attended the L. S. U. and T. C. U. football game in New Orleans, New Year's day.

Mrs. D. C. Montgomery, Greenville, visited her sister, Mrs. John Bullington, Memphis.

Dr. D. C. Montgomery, Greenville, was among those who were in Memphis to attend "Elliott Day" in honor of Dr. Elliott, of Memphis.

Dr. and Mrs. H. A. Gamble, Greenville, attended the Southern Surgical Association meeting in Hot Springs, Va. They stopped enroute in Nashville to visit their son, Lyne, who is a second year medical student at Vanderbilt.

Mrs. Paul Gamble, Greenville, chairman of the Washington County Park Commission, was operated on recently at the King's Daughters' Hospital in Greenville. Dr. and Mrs. Paul Gamble's many friend throughout this section of the South will be glad to know that she is convalescing rapidly.

The many friends of Dr. R. E. Wilson, Greenville, regret to learn of the recent illness of his father and are glad to know that Mr. Wilson is improving steadily.

Dr. and Mrs. T. B. Lewis, Greenville, had as their house guests during the Christmas holidays Mr. and Mrs. Jimmie Franklin and daughter, Sharon, Jackson.

Mr. and Mrs. Wm. Rhea Blake and daughter, Blufield, West Va., spent two weeks with their father and mother, Dr. and Mrs. T. B. Lewis, Greenville.

The many friends of Dr. and Mrs. Otis Beck, Greenville, regret to learn of the recent death of Mrs. Beck's aunt, Miss Elizabeth Barrier.

Dr. J. C. Green, Greenville, read a paper entitled "The Treatment of Peripheral Vascular Disease By Means of Alternating Positive and Negative Pressure," in Tupelo, at the meeting of the Northeast Mississippi Thirteen Counties Medical Societies, Dec. 17.

Dr. J. A. Beals, Greenville, attended the Radiologist Society of North America meeting in Detroit the first week in December. He was accompanied by his daughter, Miss Paloma, as far as Indiana where she stopped to visit her grandparents.

Mrs. Mary A. Christian, Noblesville, Ind., is visiting in the home of her son and daughter, Dr. and Mrs. J. A. Beals, Greenville.

William C. Keady, senior student in the law school of Washington University St. Louis,

spent the Christmas holidays with his wife, in the home of Dr. and Mrs. C. P. Thompson, Greenville. Mr. Keady was recently selected to represent the University in an international debate with Oxford University, Oxford, England, and won the decision of the judges.

Mrs. William Keady, Greenville, daughter of Dr. and Mrs. C. P. Thompson, will leave this month for the University of Mississippi where she will participate in the installation of a Sigma Alpha Iota Chapter on the Ole Miss Campus. S. A. I. is a national musical fraternity and Mrs. Keady is a charter member.

The many friends of Dr. and Mrs. L. C. Davis, Greenville, regret to learn of the recent death of their little daughter, Ada Lee. The doctors of Greenville wish especially to express their deepest sympathy to Dr. and Mrs. Davis.

JOHN G. ARCHER, County Editor

HONOR ROLL

COUNTY EDITORS: Lucien S. Gaudet, N. C. Knight, L. L. Minor, L. L. Polk, W. B. Dickins, G. H. Wood, R. P. Donaldson, M. L. Montgomery, H. T. Ims, John G. Archer.—10.

SOCIETIES: Adams County, Lucien E. Gaudet; Amite County, D. H. Thornhill; Central, L. W. Long; Coahoma County, N. C. Knight; Franklin County, S. R. Towns; Homochitto Valley, Lucien S. Gaudet; Issaquena-Sharkey-Warren, Leon S. Lippincott; Jackson County, R. G. Lander; Newton County, Dudley Stennis; North Mississippi, A. H. Little; Pontotoc County, R. P. Donaldson; South Mississippi, F. T. Bowers.—12.

HOSPITALS: Clarksdale Hospital; Houston Hospital; Jackson County Hospital, R. G. Lander; Mississippi Baptist Hospital, Karenza Gilfoy; Newton Infirmary, Mrs. Scottie Kemp; Vicksburg Clinic, W. H. Parsons; Vicksburg Sanitarium.—7.

OTHERS: F. M. Acree, Q. Edward Gatlin; F. J. Underwood, A. Street.—4.

GRAND TOTAL—33.

HOSPITAL STAFF TRANSACTIONS

HOUSTON HOSPITAL

The Houston Hospital Staff had the pleasure of having the senior class of the University of Mississippi School of Medicine accompanied by Professor Sims with us Jan. 9 for clinics with us.

Dr. Douglas D. Baugh, in charge of our medical department here, presented the following cases:

1. Acute suppurative appendicitis.
2. Hypertensive heart disease.
3. Rheumatic heart disease with associated decompensation and chronic nephritis.
4. Exophthalmic goitre with associated decompensation and chronic nephritis.
4. Exophthalmic goitre with associated auricular fibrillation.
5. Pulmonary tuberculosis.
6. Elephantiasis of the scrotum and penis.

During the demonstrations the technics of history taking and physical examination were particularly emphasized. The cases, with the exception of the enormous elephantiasis, which was shown as a medical curiosity, were selected with a view to giving the students something practical and concrete for their study and examinations. Other clinics later in the year are being arranged for the benefit of the class.

Our regular staff meetings are held on the

last Thursday night of each month, the January meeting falling on Jan. 30. A report of this meeting will appear in the next issue of this journal.

JACKSON COUNTY HOSPITAL

At the January meeting of the Jackson County Hospital Staff, the following officers were elected:

Dr. A. P. McArthur, Moss Point, president; Dr. J. N. Thresh, Grand Bay, Ala., vice-president; Dr. R. G. Lander, Pascagoula, secretary.

R. G. LANDER, Secretary

MISSISSIPPI BAPTIST HOSPITAL

At the annual meeting of the Board of Trustees of the hospital, Dec. 2, Mrs. Karenza Gilfoxy was elected superintendent for the ensuing year. Mrs. Gilfoxy has been connected with the hospital as bookkeeper and cashier for eight years. When Rev. Wayne Alliston tendered his resignation June 13 to become WPA Director for Mississippi, Mrs. Gilfoxy was elected to serve for the unexpired term and at this annual meeting she was re-elected to serve for another year.

The staff of the Mississippi Baptist Hospital, consisting of forty-five doctors, has been divided into two groups, associate members and active members. The active members will participate in the rotating service of the hospital.

The staff meets on the third Tuesday evening of each month at six o'clock in the hospital dining room. Very interesting programs are always given and many lectures with moving picture machines.

Drs. F. L. Van Alstine, Temple Ainsworth, R. C. O'Ferrall and Jno. S. McIntosh attended the Sugar Bowl football game at New Orleans, New Year's day.

Dr. and Mrs. J. W. Lipscomb, Jr., very proudly introduced another member to our staff in the person of their young son, J.W., the third, who came to make his home with them Dec. 7.

Dr. and Mrs. H. F. Garrison, Jr., are entertaining in their home a dainty little daughter to whom they have given the musical name of Jacqueline. Her birthday is Jan. 2.

Drs. F. L. Van Alstine and Temple Ainsworth attended the meeting of the Southeastern Branch of the American Urological Association which convened in Nashville, Tenn.

Mr. C. A. Palmerlee of the Mississippi Baptist Hospital will leave around the last of the month for intensive X-ray and laboratory study in the Mayo Clinic at Rochester.

Dr. H. R. Shands has just recently returned from Hot Springs, Virginia, where he attended the meeting of the Southern Surgical Association.

KARENZA GILFOY, Superintendent.

NEWTON INFIRMARY

Miss Ruby Sullivan has been appointed superintendent of nurses of Newton Infirmary, to succeed Mrs. Omar Simmons, resigned.

Mrs. H. McMullan and Miss Ruby Sullivan spent the Christmas holidays in the home of Mr. Oren James, Hill Crest Farm, Charleston. They also heard Dr. Kagawa speak in Memphis.

Mrs. Scottie Kemp spent the holidays with her mother, Mrs. Rosa O'Rourke, and daughter, Mrs. Virginia Wilson in Columbia.

Dr. and Mrs. Dudley Stennis had with them for the holidays their daughters, Misses Mar-

tha, Elizabeth and Mildred.

Dr. and Mrs. T. E. Jarvis had Mr. and Mrs. H. C. Greer and their son, H. C. 3rd., of Anguilla, for the holidays.

Dr. W. E. Box continues ill and had not as yet resumed his practice. He hopes in the near future to be back to work.

Mrs. Omar Simmons is spending some time in Louin with Dr. Simmons' mother who is ill.

With every good wish for prosperity during the coming year.

MRS. SCOTTIE KEMP, Secretary.

VICKSBURG CLINIC

Dr. T. P. Sparks, early in December, attended the meeting of the Southern Branch of the American Urological Association at Nashville, Tenn.

Dr. and Mrs. Willard Parsons in December attended the meeting of the Southern Surgical Association at Hot Springs, Va.

W. H. PARSONS.

VICKSBURG SANITARIUM STAFF MEETING

A regular monthly meeting of the staff of the Vicksburg Sanitarium was held Friday, Jan. 10 with Dr. J. A. K. Birchett, Jr., president, presiding. After a supper at 6:30 p. m., the business of the staff, and reports from the records department and analysis of the work of the hospital, Dr. F. Michael Smith, director, Warren County Health Department, made a report of vital statistics for the month of December.

Special case reports were presented as follows:

1. Recurrent Bilateral Pyelitis in a Diabetic.—Dr. Leon S. Lippincott.
2. Dermoid Cyst of Ovary—Rupture With Peritonitis.—Dr. J. A. K. Birchett, Jr.
3. Basilar Fracture of Skull With Recovery.—Dr. R. A. Street, Jr.

Selected radiographic studies were presented and discussed as follows: Gunshot Wound of Pelvis; Congenital Syphilis of Long Bones; Pulmonary Tuberculosis (2 cases); Bronchiectasis; Suppurative Pleurisy; Thorax, For Diagnosis; Maxillary Sinusitis; Fluid Levels in Intestinal Obstruction. Ingested Foreign Body (Iron Staple.)

Three minute reports of the literature of the month were given as follows:

Dr. L. S. Lippincott—Affects of Peritoneal Resorption on the Liver; and Tetanus Toxin Not Transferred by Peripheral Nerves.

Dr. L. J. Clark—Clinical Relationship of Blood Cholesterol and Cholesterol Metabolism; Cholesterol in Hypothyroid Conditions; Helium in Asthma; and Dyspnea in Liver Disease.

The next meeting of the staff will be held Monday, February 10, 1936.

LEON S. LIPPINCOTT, Secretary.

Special Reports staff meeting, Jan. 10, 1936.

RECURRENT BILATERAL PYELITIS IN A DIABETIC

Leon S. Lippincott, M.D.

PATIENT: White, male, age 24, single, physician. Admitted to Sanitarium Oct. 21, 1935. Services of Drs. A. Street and Leon S. Lippincott.

CHIEF COMPLAINT: Low back pain and discomfort, worse on motion. Fever, 99 to 104°F., following attempts to remain out of bed. Uri-

nary frequency and tenesmus sometimes, and recently slight urethral discharge.

HISTORY OF PRESENT COMPLAINT: Onset two months ago with bloody "cystitis." Then developed tenderness in left costo-vertebral angle. Later chills and fever, nausea and vomiting. Symptoms subsided under rest and palliative treatment but recur when he gets about. Has also had pain in right costo-vertebral angle.

PAST HISTORY: Appendectomy in 1927. Tonsillectomy in 1935. Diabetes mellitus since 1927.

PHYSICAL EXAMINATION: 5 p. m. Temperature 101°F.; pulse 120; respiration 20; blood pressure 130/90; height 69 inches; weight 126 lbs.; should weigh 155 lbs.; most ever weighed 174 lbs., in 1932. Fairly well developed; fairly well nourished; looks chronically ill. McBurney scar. Some bilateral costo-vertebral tenderness.

CLINICAL LABORATORY: Blood: hb. 92%; leukocytes 10,500; differential leukocyte count—small lymphocytes 28%, large lymphocytes, 5%, polymorph. neutrophils, mature 6%, band forms 6%, eosinophils 1%; no malaria found. Wassermann, Kahn, Kline and Young, and Eagle flocculation tests negative.

Urine: cloudy, acid, sp. gr. 1.011, slight trace of albumin, no sugar, pH 5.8; many pus cells, numerous fresh red blood cells, some bacilli, numerous cocci; no tubercle bacilli, no gonococci found.

Prostatic expression: leukocytes (polymorphs) 25 per low power field, rare gram positive cocci, no gonococci found.

Oct. 22. Temperature 99.8°F. at 6 a. m. to 104°F. at 4 p. m. Fasting blood sugar 307 mg. per 100 cc. Urine sugar 1% to 3.3%. Strict diabetic diet. Insulin 30 units. Vomited twice.

Oct. 23. Temperature 100.6°F. at 12 noon to 104°F. at 6 p. m. Blood, fasting: Urea nitrogen 23.35 mg. per 100 cc.; uric acid 2.5 mg.; chlorides 600 mg.; sugar 236 mg.; plasma fibrin 0.27 percent, albumin 5.56 percent, globulin 2.40 percent. Urine; sugar 0.47 percent to 6.6 percent large trace of acetone; no diacetic acid, many pus cells; rare fresh red blood cell; numerous bacilli, some cocci; pH 5.2 to 5.6. Agglutination tests for typhoid, paratyphoid A and para-typhoid B. negative. Agglutination test for undulant fever negative.

Roentgen ray studies of thorax and urinary tract normal.

Food—milk and orange juice; 100 cc. 5 percent glucose solution. Insulin 40 units. Vomited twice.

Oct. 24. Temperature 99.8°F. at 8 a. m. to 103.2°F. at 8 p. m. Urine; sugar 0.5 percent to 5.5 percent; slight trace to large trace of acetone. Catheter specimen showed many pus cells; culture numerous B. coli.

Cystoscopic Examination: introduction easy; tolerance fair. Bladder contains turbid fluid, mucosa mildly congested; orifices normal except for gaping of left. Right ureter—easily catheterized (No. 5), 32 cm.; no residual; normal flow. Left ureter same. Left pyelogram shows small renal pelvis and large iodized oil shadow below and outside of renal pelvic. All iodized oil had disappeared in flat urinary tract film the next day. Specimens from both kidney pelvises showed many pus cells, numerous B. coli. No tubercle bacilli were found.

Small amounts of food taken. Insulin 40 units.

Oct. 25. Temperature 104°F. at 2:30 a. m.; 100.8°F. at 12 noon; 104.6°F. at 10:20 p. m. Blood; leukocytes 12,000; small lymphocytes 12 per-

cent, large lymphocytes 1 percent, monocytes 4 percent, neutrophils, mature 35 percent, band forms 48 percent. D'Amato test for tuberculosis negative. Urine: sugar 1.5 percent to 5.5 percent; trace to marked acetone; pH 5.5 to 6.

Liquid and soft diabetic diet; 1,000 cc. of glucose, 5 percent, intravenously. Vomited twice. Insulin 70 units.

Oct. 26. Temperature 104.4°F. at 1:40 a. m.; 101°F. at 4 p. m.; 102.4°F. at 8 p. m. Urine: sugar y.6 to 5.5 percent; no acetone to large trace; many pus cells; numerous bacilli and cocci; pH 5.6 to 6.

Strict diabetic diet; 1,000 cc. of 5 percent glucose solution intravenously. Vomited once. Insulin 100 units.

Oct. 27. Temperature 103.2°F. at 1:10 a. m.; 100.4°F. at 4 p. m.; 102°F. at 6 p. m. Urine: sugar 0.6 percent to 7.1 percent; no acetone to large trace; many pus cells; many bacilli; pH 5.5 to 6. Insulin 78 units.

Oct. 28 to Nov. 4. Irregular fever, gradually diminishing. Eating better. Urine: sugar none to 5 percent; no acetone to large trace; pus, blood and bacteria essentially the same; pH 5.4 to 6.1. Occasional vomiting. Insulin 60 to 110 units in 24 hours. Began ammonium chloride, ten grains three times a day to acidity urine.

Nov. 5 to 13. Temperature essentially normal, with occasional rise to between 99 to 100 degrees F. some afternoons. Urine sugar free part of each day; difficult to establish insulin balance; 69 to 84 units per day. No evident change in pus, blood and bacteria in urine; acetone slight; pH 5.5 to 6.2.

Nov. 9. Catheter specimen of urine—many pus cells, numerous B. coli. Cystoscopic examination: introduction easy; tolerance good. Bladder mucosa normal; right ureteral orifice placed definitely higher than left. Right ureter—easily catheterized (No. 5); 8 cc. residual. Left Ureter—easily catheterized (No. 5); 2 cc. residual. Specimen from right kidney pelvis—many pus cells; numerous B. coli; no tubercle bacilli found. Specimen from left kidney pelvis—some pus cells; numerous B. coli; no tubercle bacilli found. Phenolsulphonphthalein tests, intravenous, right and left, showed normal function. Guinea pig inoculated intraperitoneally with catheterized bladder urine was well and had gained 30 grams in weight on January 9, 1936. Cultures for tubercle bacilli showed no growth on January 9.

Nov. 13. Began ketogenic diet in effort to overcome urinary tract infection. pH of urine mostly under 5.5 from Nov. 17 to 22 and diacetic acid present. Afterward pH mostly between 5.5 and 6 with diacetic acid present about half of the time. Difficult to control blood and urine sugar and administration of insulin usually followed by lessened acidity. Ammonium chloride was increased to 20 grains three times a day without appreciable effect on reaction of urine. Some nausea and burning in stomach and some urethral irritation.

Nov. 15. Cystoscopic Examination: introduction easy; tolerance good. Bladder mucosa generally hyperemic; no edema. Right ureter—easily catheterized (No. 5) 31 cm. Left ureter—same. Specimen from right kidney pelvis—many pus cells; numerous B. coli; no tubercle bacilli found. Specimen from left kidney pelvis—few pus, numerous leukocytes; rare B. coli; no tubercle bacilli found.

Weight 120½ pounds.

Nov. 24 to 28. Fluids which had been given

freely, were restricted to 2,000 cc. in 24 hours, with considerable complaint on the part of the patient. This was followed on Nov. 26 and 27 by a urine pH between 5.4 and 5.6.

Nov. 28. Because of loss of weight (to 117 lbs.) and complaints of feeling badly, diabetic diet and free fluids were restored. The diet was more liberal than before.

Nov. 29. Cystoscopic Examination: bladder mucosa slightly injected; ureters easily catheterized (No. 5), 31 cm.; no residual. Specimen from right kidney pelvis—many pus cells; rare *B. coli*; No tubercle bacilli found. Specimen from left kidney pelvis—few leukocytes; no organisms found in smears; *B. coli* by culture; no tubercle bacilli found.

Dec. 3. Blood: hb. 97 percent; erythrocytes 4 percent, monocytes 1 percent, polymorphs 17 percent, large lymphocytes 5,350,000; color index 0.9; leukocytes 13,900; morph. neutrophils, mature 31 percent, band forms 47 percent; no malaria found.

Nov. 20 to Dec. 9. Leukocyte counts were made on all specimens of urine (from 4 to 10 specimens each 24 hours) and varied from 6 to 139 per cu. mm. The daily average was 10 to 114 leukocytes per cu. mm. The last day the average was 55 leukocytes per cu. mm.

Nov. 28 to Dec. 11. There was continuous improvement in the general condition, a generous diabetic diet was balanced with insulin in three doses, at 3 a. m., and 5 p. m., total 74 units, and there was a gain of weight to 122 pounds.

DISCHARGED—Dec. 11 to continue bed rest at home. Improved.

ABSTRACT. Dermoid Cyst of Ovary—Rupture With Peritonitis. Dr. J. A. K. Birchett, Jr. Patient. White, female, age 22, admitted to Vicksburg Sanitarium, Nov. 7, 1935.

CHIEF COMPLAINT: Pain in right lumbar region referred down right flank and into leg.

HISTORY OF CHIEF COMPLAINT: Forty-eight hours before admission had severe lancinating pain over right kidney, referred down right flank. Some frequency of urination with severe chill followed by fever of 103 degrees F. Condition was thought to be possibly of renal origin and patient was requested to come into hospital for general and especially a urological examination. On admission pain was severe enough to require morphine for relief, being felt over right kidney and right lower quadrant of abdomen. Nausea, no vomiting, no bowel movement for 12 hours. History otherwise negative.

PAST HISTORY. Usual diseases of childhood. No previous attacks similar to this one. Suffers with dysmenorrhea, periods last three to seven days. Has premenstrual vaginal drainage of a profuse white discharge. Never had any operation except tonsillectomy. Has been feeling weak and nervous especially at menstrual periods for past three or four years. No pregnancies. Has been losing weight.

FAMILY HISTORY. Negative. No tuberculosis, no cancer.

PHYSICAL EXAMINATION. Fairly well developed and nourished white female apparently ill with fever 102°F.; pulse 120; complaining of back pain over right kidney. On pressure over right costo-vertebral angle there is severe lancinating pain. Specimens of urine cloudy and contain rare pus and blood cells. There is pain over right abdomen with some rigidity, peritoneal release sign negative. Pelvic examination reveals vaginitis with endocer-

vicitis, smear did not show any specific infection. Uterus small, firm, pressed to left, to right was painful mass size of large orange, all manipulation was especially painful, pain being noted in epigastric region and in right lower lumbar region.

Head, neck, throat, heart and lungs essentially negative.

CLINICAL LABORATORY. Leukocytes 8,300; differential leukocyte count; small lymphocytes 12 percent; large lymphocytes 9 percent; monocytes 2 percent; neutrophils, mature 34 percent, band forms 43 percent. No malaria found. Blood Wassermann, Kline and Young, Kahn and Eagle flocculation tests negative. Urine: slightly cloudy; acid, slightest possible trace albumin; rare leukocytes; rare fresh red blood cells.

PROCEDURE. Cystoscopy was done to rule out lesion of urinary tract as pain was referred to this region and history of urinary symptoms with pus and blood made this a possible cause of the syndrome. Bladder mucosa was congested, left kidney pelvis easily catheterized. The catheter passed easily up the right ureter but made large inward and then outward sweeps as if it were passing around a mass and there was a corresponding bulge into the bladder displacing the right ureteral orifice. This deformity was the outline of ovarian cyst pushed against bladder and cause of bladder symptoms. The urine from right renal pelvis was 25 cc. showing some retention which was cause of pain in costo-vertebral angle. However, catheterization did not relieve the pain in back and flank and fever persisted as high as 103°F. at times. This continued for several days with no change in blood picture and no evidence of malaria.

Nov. 12, five days after admission temperature was normal and patient was advised to have exploratory laparotomy for removal of the right pelvis mass which was thought to be an ovarian cyst as she gave history of dysmenorrhea and prolonged menstruation. It was believed that this condition should be investigated while here in the Sanitarium at this time and we thought that the mass was the direct cause of her illness. Therefore, Nov. 12 under gas anaesthesia, laparotomy was performed. The mass proved to be a large dermoid cyst of right ovary which showed evidence of erosion and perforation and spilling of contents which were hair and sebaceous material of dermoid cyst into pelvic cavity setting up an acute peritoneal irritation with many recently formed adhesions between pelvic structure and small bowel. These adhesions were carefully separated and the large degenerating ovarian mass with tube attached was removed. Appendix was also diseased and removed. Peritoneum was drained.

Patient made an uneventful convalescence. Discharged Nov. 29, thirteenth postoperative day feeling well. Has gained weight, had one normal period which lasted four days with no pain and feels that she has been greatly improved.

ABSTRACT. BASILAR FRACTURE OF SKULL WITH RECOVERY. Dr. R. A. Street, Jr.

PATIENT. White, male, age 18; admitted to hospital Nov. 28, 1935, with the following history:

About twenty minutes ago he fell from the side of a moving car while standing on the

running-board. He was thrown about six feet and his head struck a curb-stone. He was immediately picked up and brought to the hospital. He complained of severe headache, but did not lose consciousness and was nauseated and vomiting. There was profuse bleeding from nose.

PHYSICAL EXAMINATION. On admission showed a well-developed and well-nourished boy in an apparent state of shock. Blood pressure 120/80; temperature 97, pulse rate 68. There was a visible abrasion of the bridge of the nose and after packing nose there was some blood in the posterior nasal region and throat. The eyes reacted to light and accommodation and the pupils were normal in size and regular. There was no evidence of paralysis in any part of the body. Examination of the ears with a speculum, showed no blood in the auditory canals, but both tympanic membranes were bulging and were a deep purple color, suggestive of hemorrhage from a basal fracture. The rest of the examination was not remarkable.

TREATMENT. Immediately given 500 cc. of 10 percent glucose solution and 2 grains of caffeine-sodium-benzoate hypodermically. The pulse was very slow and patient was vomiting bright red blood in small amounts. Cold applications were kept to the head and the bridge of the nose continuously. He was given 10 cc. of calcium gluconate about four hours later in the vein and Dr. Edwards was called in consultation to see the patient. 0.5 percent atropine was ordered in each eye every 12 hours and 1-1000 adrenalin solution was used to spray the nose every two hours. Patient was again given 200 cc. of 20 percent glucose solution that night, his condition remaining serious. He was quite restless and slightly delirious. Pulse continued around 50 to 60 and severe headache continued.

The next day he was given 250 cc. of 20 percent glucose solution twice and did not show any improvement. The tympanic membranes apparently ruptured and there was some oozing of blood from the ears. Spinal puncture was begun the next day with persistence of the headache and restlessness and occasional muscular twitchings and glucose solution was repeated in two doses. The outlook was still very grave and pulse had not changed appreciably. He was not vomiting as much as before, however. The next day he was able to tolerate water by mouth better, but was given two doses of 250 cc. of 20 percent glucose solution and 25 percent boroglycerin drops were put in each ear twice a day. At this time there was noted behind each ear a marked discoloration of the skin. Although the head continued to bother him, pain was not nearly as severe.

The next day the patient was able to tolerate liquids fairly well and felt some better, but the glucose solution was again repeated. The following day it was decided that a good laxative would help him some and he was given one ounce of epsom salts in the morning with good results. His condition seemed to be improved from this point on and spinal taps were not necessary after this day and headache was less marked as to frequency and severity. The adrenalin nose drops were discontinued and petrol oil drops were given instead.

Two days later, he was put on a soft diet and was given two drams of phosphate of soda

that morning. He apparently, was very comfortable from this point on, with occasional headache, but was kept strictly quiet and watched carefully. He was not allowed out of bed until Dec. 19 and was discharged from the hospital on Dec. 22 in apparently excellent condition. He has not been seen since then, but seems to have recovered sufficiently to have been transferred home.

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The Magnolia School, a school conducted for children whose mental or physical development has not progressed normally, has been in operation since October 1, 1935. It is located on Central Avenue and the River Road in Jefferson Parish just off Jefferson Highway No. 61, out of New Orleans.

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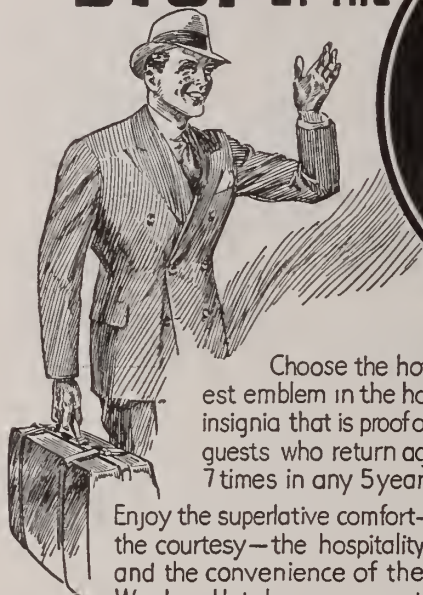
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BOONEVILLE, MISSISSIPPI, MARCH, 1936

NO. 10



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The U. S. Pharmacopoeia (IX, 1916, and X, 1925) recognized cod liver oil as the oil from the livers of fishes of the family *Gadidae*. There being some 50 species in this family, in addition to the type species, *Gadus Morrhua*, our first studies were directed at the examination of the more important species classed as cod. It occurred to us that somewhere in nature there might exist a species, or a family, or an order of fish, the liver oil of which would make possible a mixture comparable with Oleum Morrhuae but higher in vitamin potency.

The study was then directed to other species. By 1927 we had quantitatively compared the antirickettic value of oils from 15 species of fish and 11 other oils and fats. This was the most extensive survey of vitamin D sources reported up to that time. Outstanding in this list was puffer fish liver oil with a vitamin potency 15 times that of cod liver oil. Puffer fish were not available in commercial amounts, but the fact that one species of fish yielded so high a vitamin store provided great stimulus to investigators.

We discovered that the potency of fish liver oils increases with the leanness of the livers. With this revelation, we began a survey of all available commercial fish, as well as of rarer species. Collectors were sent to distant continents and to the islands of the Pacific and Atlantic oceans. From ports which never before knew cold storage we arranged to obtain refrigerated livers for our experiments. This ichthyological survey was interrupted (1928) at the time we introduced activated ergosterol.

In 1929 the Norwegian investigator, Schmidt-Nielsen, reported halibut liver oil to be superior to cod in vitamin A. Upon investigating, we felt then, as we do now, that while halibut liver oil marked a distinct advance it left much to be

desired since it was perforce an expensive source of vitamin D. Hence it came to be used chiefly to supply vitamin A as a vehicle for viosterol.

Continuing the search for fish liver oils, by 1934 our laboratory staff had made thousands of bioassays of oils from more than 100 species to determine their vitamin characteristics. The results, reported in scientific journals in January and April 1935, were the culmination of a search literally of the seven seas.

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Just as Oleum Morrhuae is a mixture of the liver oils of various cod species (cf. U.S.P. XI, 1935, p. 261) so Mead's Oleum Percomorphum is a mixture of the liver oils of various percomorph species.** The significant difference is that the improved product is 100 times as potent* in both vitamins A and D.

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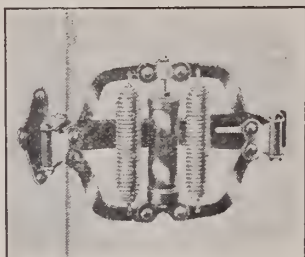
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The Diagnosis and Treatment of Meningitis*

JOSEPHINE B. NEAL, M.D.
New York, N. Y.

Meningitis may be caused by a larger number of organisms, both the more common types and the higher forms, as actinomycetes and yeasts. The most important form is that caused by the meningococcus, since it is relatively frequent in normal times, it is the only type that occurs in epidemics, and it is the only one for which we have an adequate method of therapy. Next in numerical order is tuberculous meningitis. It has been gratifying to note that in the last ten or fifteen years the incidence in this disease, in New York City at least, has gradually declined. This decline is probably due to the better recognition of the susceptibility of infants and young children to tuberculosis, and their better protection from exposure to open cases.

Table I shows the distribution by age and etiology of more than three thousand cases of meningitis. Table II lists the more unusual forms of meningitis, and it is presented as a matter of general interest. A study of Table I reveals that after the meningococcus, the streptococcus and pneumococcus rank about equally as causes of purulent meningitis. In streptococcal meningitis, the hemolytic types of streptococcus are most commonly present. Occasionally, a streptococcus viridans is found, and rarely a gamma type. A wide range of types is found in pneumococcal meningitis. Type III is most commonly found in meningitis secondary to otitis media, mastoiditis, and sinusitis. Type I is most commonly found with respiratory infections preceding or accompanying meningitis. Cases of streptococcal and pneumococcal meningitis are usually secondary to a primary focus of infection in the respiratory tract, in the ear, or in the sinuses, and of course the organism present in the meningitis is of the same type as that in the primary focus.

It should be understood that a meningitis associated with a definite focus of infection is not necessarily secondary to it. Not infrequently we see cases of meningococcal meningitis following a pneumonia or otitis media which are in all probability not due to the meningococcus. Again, a recent case of meningitis caused by hemolytic streptococcus occurred during convalescence from a pneumococcus type II pneumonia.

It is interesting to note that during the

past three or four years there has been an increase in the number of cases of meningitis due to bacillus influenzae. Of course, influenza meningitis has no connection whatever with clinical influenza. Indeed, it was noted in the epidemic of influenza of 1918 and 1919 that there was no increase in the number of cases of influenzal meningitis in New York City. As is well known, the great majority of bacteriologists do not regard the influenza bacillus as an etiologic factor of clinical influenza. It is, however, the etiologic agent of influenzal meningitis.

Since on all accounts meningococcal meningitis rates first, I shall devote most of my time to discussing this disease. The cases listed in Table I are those that have been seen by members of the Division of Applied Therapy of the Health Department of New York City since 1910. During this time there has been no real epidemic of meningitis in New York City. In 1917-18, and 1928-29, and in 1935 running into the current year there have been what may be designated as outbreaks of this disease. These more or less periodic increases in incidence are a well known characteristic of its epidemiology. The greatest incidence of cases, both in epidemic and non-epidemic times, is in the late winter and spring months. There are certain features in which the disease is different in sporadic and epidemic cases. During epidemics or outbreaks, there are more frequently multiple cases in the same family, or histories of direct exposure to the disease. There are also more cases of the septicemic type, and the age incidence tends to be higher. It will be noted in Table I that there were more cases in the first year of life than in any other one year. Most of these cases would be classified as sporadic. During outbreaks the number of cases in the first year of life is relatively few.

The meningococcus is almost constantly present in the nasopharynx of patients suffering from meningitis. This is also the case in a certain percentage of healthy individuals, who have had no contact with patients. It is assumed that the disease is spread largely by carriers since there are relatively few instances of direct exposure. From the low morbidity even in epidemics, it would seem that most individuals have developed an immunity in some way. From the comparatively few records of direct exposure, the incubation period seems to be short, perhaps three to five days.

The symptoms of meningitis are due to various causes. They may be regarded as representing a general reaction to an acute infection and also a specific reaction due to the involvement of the meninges and the central nervous system. It is sometimes difficult to decide exactly which element produces a given symptom; the action of a tox-

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in, the increased pressure of the spinal fluid, or the active inflammatory reaction in the meninges and nerve tissue. In the production of many of the symptoms doubtless one or more of these elements play a part.

The symptomatology of all types of purulent meningitis is in general the same. Of course, in meningitis secondary to other infections the onset is usually masked by the symptoms of the primary infection. It will be necessary, therefore, to describe only the symptomatology of meningococcic meningitis, and that rather briefly. The clinical picture in all is modified by the severity of the infection and the resistance of the individual. For clinical purposes, it is convenient to consider four types: (1) The usual type in older children and adults; (2) clinical picture in infants; (3) septicemic type, and (4) fulminating type.

1. The Usual Type in Older Children and Adults.—The onset is abrupt with rare exceptions. The attack is usually ushered in by intense headache, vomiting, fever and often chills. Vomiting occurs almost constantly early in the disease, and may be very persistent for the first twenty-four hours to forty-eight hours. The temperature at onset is almost invariably high, from 102 to 105° F., and ordinarily it remains elevated though with remissions, as a rule, every few hours during the course of the disease, followed by lysis if the patient improves. Rarely a case is practically afebrile throughout a long and tedious illness. The pulse is usually increased in rate though often not in proportion to the temperature. It is regular in rhythm and of good volume and tension. The bradycardia and irregularity of the pulse that are so often encountered in tuberculous meningitis are unusual. The respiration is often of the Biot type, showing marked variation in rate and depth. In very severe cases the Cheyne-Stokes type may develop especially near the termination. Convulsions may occur, especially in young children. The patients are frequently hyperesthetic and sensitive to light. There may be pains in the back, especially in the cervical region.

The mental condition is subject to the widest variations. In rather mild cases the mentality and restlessness. In more severe cases, active delirium may develop early, sometimes clearing up after the first dose of serum. In unfavorable cases, the delirium is usually succeeded by stupor, progressing to coma. In other severe cases, there may be a condition of semistupor or even coma early in the disease. The bowels are usually constipated and there is often retention of urine. There may be loss of sphincteric control in the very severe cases in which coma develops.

Hypertonicity of certain muscles probably due to inflammation of the meninges over the

posterior nerve roots is almost constantly present in patients over a year old. This shows itself in various ways, first in rigidity of the neck which varies from a slight anteroposterior stiffness to a retraction with almost complete fixation of the head. The retraction may be so great that swallowing is almost impossible. Another manifestation of this hypertonicity is opisthotonus which often develops in serious and prolonged cases, especially in posterior basic types. A positive Kernig sign is a third manifestation. It is often absent or difficult to determine in young children. To the same cause are doubtless due the Brudzinski neck and leg signs. Paralyzes are rare but they may occur. They may be very transient. Paralysis of the eye muscles with resulting strabismus and ptosis are the most frequent and persistent. We do not attach much importance to Babinski and confirmatory signs unless there is a hemiplegia. Tremor of the coarse intention type occasionally occurs. Early in the disease the tendon reflexes are apt to be exaggerated and equal, later they may become unequal, diminished and finally lost. The reaction of the pupils to light follows the same course. Ophthalmoscopic examination often shows moderate congestion of the disk. In children a positive Macewen sign indicating increased intraventricular pressure can usually be detected. An herpetic eruption is frequently present. It most often occurs along the mucous membrane of the lips or in a more unusual location upon the ball of the foot or along the course of one of the nerves. It usually appears on the third to the seventh day and has no prognostic significance. An hemorrhagic eruption occurs in 12 to 15 per cent of the sporadic cases. The spots vary in size from petechiae to enormous blotches. This rash appears early (within the first thirty-six hours) and usually fades in two or three days. It must not be forgotten that a hemorrhagic rash may occur in other forms of meningitis with septicemia and is, therefore, not pathognomonic of meningococcic infection. We have seen cases of influenzal, staphylococcic and streptococcic meningitis with an hemorrhagic eruption. This early hemorrhagic rash, which is speedily followed by meningeal symptoms, is due, we believe, to transient invasion of the blood stream by the meningococcus or possibly to the reaction of toxins. In a series of 43 early cases, 21 of whom had a hemorrhagic rash at the time blood culture was taken, there was a positive culture in only three instances. This hemorrhagic rash does not by any means necessarily indicate that the disease is of the septicemic type.

The course of the disease, in the treated cases, depends on how early the serum is administered and the response of the patient to the treatment. There are four courses which

the disease may pursue: (a) It may run an acute course, the patient either dying or recovering after a few doses of serum; (b) the disease may be greatly prolonged so that 20 or more doses of serum may be given before death or recovery finally takes place; (c) the disease may relapse after apparent recovery, indicating perhaps that some focal or walled-off infection has broken down, a type of case in which recovery not infrequently takes place; (d) there is a course in which there is blocking due to the formation of adhesions and these may be either along the spinal canal or at the base of the brain.

2. Clinical Picture in Infants.—It has been shown in Table I that more cases occur in the first year of life than in any other one year. It is at this age that mortality is highest and diagnosis most difficult. In infants we do not see the early stiffness of the neck, the Kernig sign or the changes in reflexes that characterize the disease in older children and adults. The onset is less sudden. There is often vomiting and practically always some intestinal disturbance, especially the presence of greenish, slimy stools. There is an irregular fever. The gastro-intestinal condition does not respond to the usual method of treatment. Convulsions may occur early, but these are so common in other diseases of infants that they are not diagnostic.

Usually ten days or two weeks have elapsed before symptoms develop that direct the physician's attention to the central nervous system. These may be the development of strabismus, a fairly well-defined rigidity of the neck, or severe convulsions. Much earlier a bulging of the fontanel might have been detected if an examination of the child had been made when he was not crying. The presence or absence of a bulging fontanel is an almost invariable indication of the state of pressure of the spinal fluid. It is not absolutely reliable because on several occasions a lumbar puncture has revealed increased pressure although the fontanel did not bulge.

The pupillary and patellar reflexes are often normal until the case is well advanced. Certainly an irregular fever and a gastro-enteritis that does not respond readily to treatment, especially when there is a bulging fontanel, are sufficient indications for early lumbar puncture.

It is in these young children that a walling off of the base with resultant dry tap most frequently occurs.

3. Septicemic Type.—This type of meningitis is quite rare among sporadic cases, but in certain of the army camps during the war and in the more recent epidemics of the West there was a large percentage of this type of case. The early picture is that of a septicemia rather than that of meningitis, the menin-

geal symptoms sometimes developing five or six days or more after the onset.

A profuse and rapidly spreading maculopapular or purpuric rash is an almost constant feature. Often the rash is polymorphous, presenting a combination of erythematous and hemorrhagic spots. The eruption usually persists for some time. Other indications of a generalized blood infection such as joint involvement may be present even before the meningeal symptoms. Of course, the blood culture is positive. It must be borne in mind that a septicemia may occur and run a prolonged course without meningitis developing. This type of infection is characterized by the rash and by the septicemic type of temperature. The elevation in temperature may take place daily or at intervals of several days. An interesting point about these patients is that they often do not appear to feel acutely ill except during the febrile periods. It may be necessary to take repeated blood cultures before a positive one is obtained.

4. Fulminating Type.—This type is rare except in epidemics. It is characterized by a violent onset. The patient is usually seized with severe headache and vomiting and speedily loses consciousness. There is usually an overwhelming septicemia. The course is very brief, death occurring within from twenty-four to forty-eight hours, or even less. There are cases on record in which the patient retired in apparently good health and was found dead in the morning. The importance of this from a medicolegal standpoint must be borne in mind.

The symptoms of tuberculous meningitis are too familiar to require much discussion. Before epidemic encephalitis appeared, most of us felt fairly confident in making a diagnosis. Now we realize that it must be confirmed by the spinal fluid examination. It is worth pointing out that the onset is not always gradual. It may be quite abrupt, suggesting a purulent meningitis. There may be paralysis, suggesting poliomyelitis. One of our patients had a psychosis at the onset, another persistent hiccough.

The principal points to be considered in the examination of the spinal fluid are these: Appearance and amount, cytology, bacteriology by smear and particularly by culture, the protein and sugar content, the Wassermann, and animal inoculation if indicated.

In meningitis the bacteriological is by far the most important part of this examination, and one that is unfortunately not sufficiently stressed. The smears from the centrifuged sediment should be stained by the Ziehl-Neelsen method if the fluid is clear, by the Gram method if it is cloudy, and by both methods in hazy fluids if no organisms are shown by the Gram method.

It has been our experience that the stained smear alone is unreliable in the diagnosis of purulent meningitis. The organisms are often very pleomorphic and while gram-negative organisms are always gram-negative, in many instances gram-positive ones will show as gram-amphophilic or even as completely decolorized forms. It is only when the organism has been identified by culture that a definite diagnosis can be made. The centrifuged sediment should be planted on a variety of mediums for early identification and an anaerobic culture should always be made. All organisms isolated should be studied until they are thoroughly identified. Cultures should not be discarded as negative until they have been incubated for a period of two weeks or more.

A few points should be considered in regard to the fluids in the different types of meningitis.

In tuberculous meningitis, the fluid is usually fairly clear, rarely slightly cloudy, a web almost constantly forms when the fluid is allowed to stand. The cell count varies from a moderate increase above normal to several hundred cells, the cells usually showing a preponderance of mononuclears except in the slightly cloudy fluids when the polymorphonuclears predominate. By careful technic, the tubercle bacilli can be demonstrated in the smear in more than 90 per cent of cases. It has recently been shown that the tubercle bacilli grow rather readily on Bordet medium, the culture appearing in three to four weeks. The cultures have sometimes grown when no organisms could be demonstrated in the smear. This culture method has certain advantages over inoculation of the fluid in guinea-pigs. The protein in tuberculous meningitis is increased in varying degrees. The sugar content is usually normal early, but as the disease progresses it ordinarily becomes greatly diminished. In a few rare instances, it has remained normal almost to the end of the illness.

In purulent meningitis, the fluid may vary in appearance from slight haziness to a thick purulent exudate. The cell count is not particularly reliable for two reasons: the cells settle out quickly and it is almost impossible to obtain uniform distribution; again, the first and last portions of the fluid obtained at a lumbar puncture may vary greatly in cytology. For these two reasons it is almost impossible to obtain a really accurate cell count. Moreover, it is not particularly important as it has little bearing on the prognosis.

The importance of the bacteriologic study in purulent meningitis has already been emphasized. The protein content is increased in varying degrees. The sugar content may be normal early in the disease but it is usually decreased later, returning again to normal if the patient responds to treatment. The re-

tur nto normal of the sugar content of the spinal fluid we regard as second in importance only to the disappearance of the organisms. We think the study of the sugar content in spinal fluids is of much more diagnostic importance than the chlorides. It is essential to make a daily complete study of all spinal fluids. This study is an important indication of the course of the disease and the efficacy of treatment. Not infrequently a drop in the sugar content has forecast an exacerbation, even before organisms reappeared. This daily study of the fluids also rules out the possibility of missing the development of a mixed infection.

Repeated blood cultures are indicated in all forms of purulent meningitis. In meningococcic meningitis invasion of the blood, if it occurs, is usually transient except in the septicemic type. In other forms of purulent meningitis, there may be a bacteremia preceding, simultaneous with, or following the development of meningitis. The presence of bacteremia modifies the method of treatment and increases the gravity of the prognosis. Frequent blood counts are also of value in following the course of the disease.

It is obviously impossible to lay down any definite rule for the treatment of meningococcic meningitis, since it shows such wide variations in its severity in different outbreaks and in individual patients.

In New York in more than thirty years there has been no real epidemic of meningitis and we have, therefore, seen a relatively small number of the severe fulminating type which has characterized epidemics elsewhere. However, many of our patients have been desperately ill.

No doubt much of the confusion in regard to methods of treatment is due to the fact that there is no reliable laboratory test for the therapeutic efficacy of the serum. Hence serum of very little therapeutic value has sometimes been used. When good serum is used only moderate amounts are necessary for successful results. If the serum is poor, the largest possible amounts will not be of benefit.

The exact way in which the serum works can not be definitely stated. It is not bactericidal. The agglutination titer certainly against freshly isolated organisms is not reliable. Moreover in a small group of convalescents, the serums did not show agglutinins even against their homologous strains. From a study of successive fluids in cases responding to treatment it would seem to work by increasing phagocytosis. The clinical picture of certain patients suggests the presence of toxemia. It is interesting, therefore, to consider the recent work of Ferry along the line of meningococcic toxin and the production of a meningococcic antitoxin. I have not had enough personal

experience with this product to offer an opinion on it. However, from the excellent results obtained with a good serum, I believe that a serum with an adequate antitoxic content would be better than a pure antitoxin.

While we recognize that every case must be treated according to its individual need, we believe that, in general, a conservative method of treatment is best. We have studied the results in hospitals where more intensive methods of treatment have been employed and the comparison of their results with ours has justified this conclusion. The only favorable report of an intensive method of treatment is that published by Tillett and Brown (Bulletin of the Johns Hopkins Hospital, November, 1935). They reported 26 cases, 24 of which were treated very intensively with serum. Two cases received no serum. Among the 24 treated cases, there was only one death. The authors state that most of these patients were treated early and that they had no systemic complications that might interfere with a favorable outcome. Moreover, they used an excellent serum, that prepared by the New York State Laboratory. In comparison with this, at one time I treated 24 consecutive cases with only one death. These patients received serum only intraspinally once a day. On the pediatric service of the Post-Graduate Hospital of New York City, 12 consecutive cases have recently been treated by conservative methods with no deaths. Therefore, I am inclined to the opinion that the excellent result reported by Tillett and Brown was due to other factors than the intensive treatment. It is our policy to use serum only intraspinally except in the septicemic type of case. Our method of treatment is usually as follows: Whenever a lumbar puncture yields a cloudy or hazy fluid antimeningococcic serum warmed to body temperature is immediately administered by gravity. Further serum treatment will depend on the cultural examination of the fluid, but all cases of purulent meningitis are treated as being of the meningococcic type until they are proved to be caused by some other organism.

The intraspinal administrations of serum are continued about every twenty-four hours until at least two successive specimens of fluid show no organisms by smear or culture. The dose of serum is usually 20 cc. if as much or more fluid has been withdrawn. If the amount of fluid withdrawn is large and the serum runs in easily by gravity, without untoward symptoms on the part of the patient, 30 to 40 cc. of serum may sometimes be administered at a time. On the other hand, in certain instances when only a small quantity of fluid is obtained we may inject more than the amount of fluid withdrawn providing the serum runs in easily and no unfavorable symptoms result.

It is desirable to drain the subarachnoid space as completely as possible before injecting serum, but if the fluid is under greatly increased pressure care must be taken to withdraw fluid slowly. Using this precaution, 50 to 60 cc. or more of fluid may be safely withdrawn.

In certain cases with excruciating headache, especially with any indication of papilledema, it is advisable to give by hypodermic from 3 to 7½ grains of caffeine preceding the spinal tap. This will reduce the extreme intracranial pressure (as shown by Foster Kennedy and his collaborators) and tend to prevent possible herniation of the cerebellum with compression of the medulla. The danger of this fatal event is not great except in the occasional case that develops early and acute hydrocephalus either from edema or from plastic exudate over the foramina Luschka or in the aqueduct of Sylvius.

Almost the only condition under which we inject serum oftener than once in twenty-four hours is when the fluid is under so greatly increased pressure that a puncture at more frequent intervals seems needed to relieve it. This condition rarely occurs.

Some physicians have recommended graduated doses of serum for young children, depending rather arbitrarily on the age. We have not found this necessary. We depend rather on the amount of fluid withdrawn, and the ease with which the fluid runs in by gravity in determining the size of the dose. However, it is necessary to exercise more than ordinary care in removing fluid and injecting serum in young patients.

A case of average severity will require from perhaps six to eight doses, but cases are occasionally seen where twenty or more doses of serum are necessary before the fluid becomes sterile. As has been stated, the serum treatment is continued until two successive fluids are free from organisms. This is by far the most important indication for stopping treatment. Another indication of less value is the return to normal of the spinal fluid sugar. The cell count of the spinal fluid is, by itself, of comparatively little value since the prognosis is poor when the spinal fluid becomes clearer and the organisms persist.

It is often necessary to do several lumbar punctures during convalescence for the relief of pressure and these fluids should be carefully examined and cultured, as the return of organisms would indicate additional serum treatment.

If the symptoms do not improve after the fluid becomes sterile and serum has been temporarily discontinued, it is well to resume injection of serum as the symptoms may be due to a localized meningitis with adhesions which may be favorably influenced by the continued

use of serum.

If signs of blocking should develop recourse should be made to ventricular or cisternal punctures and the administration of serum by these routes. In babies, while the fontanel is still open, ventricular puncture is to be preferred to cisternal as it is less dangerous to the patient and more certain of success, since the block is quite as likely to be above the cistern as below it. We do not ordinarily resort to these methods unless there is a block. If cisternal puncture were as safe as lumbar puncture it would no doubt be advisable to administer serum by that route. However, in the hands of skilled operators death has occasionally followed cisternal punctures in meningitis, usually due to hemorrhage. It seems unfortunate that these fatalities are not reported as we not infrequently read accounts of large series of cases without accident written by physicians using this technic in patients with syphilis of the central nervous system. The dangers are much greater when there is an active inflammatory process with layers of adhesions and congestion of the vessels in the neighborhood of the cistern, as is likely to be the case in meningitis. Cisternal puncture should be attempted only by those who have had adequate practice on the cadaver. It is important, after doing two or three ventricular or cisternal punctures, again to attempt lumbar punctures. In this way, one can determine whether or not the block has been relieved.

In the septicemic type of meningitis serum is given also intravenously in rather large doses (50 to 100 cc. daily, diluted by an equal amount of saline). This treatment is continued until the blood stream infection is under control. If, for any reason, the serum cannot be given intravenously in the septicemic type of meningitis, it may be given intramuscularly although the effect is not likely to be so satisfactory. In cases of meningococcemia without meningitis the serum is given only intravenously, and these cases not infrequently recover without the development of meningitis.

We are very firmly convinced that it is not desirable to give serum other than intraspinal unless a real septicemia is present. The intravenous administration of serum is not without danger as a severe or even fatal reaction occasionally follows. Then, too, horse serum is a foreign protein that must be eliminated and that usually shows definite evidence of being more or less toxic. We are quite convinced that the large quantity of serum that is given when the patient is intensively treated is actually harmful. So, also, is the too frequent disturbance of the patient. This applies both to the administration of large quantities of serum intravenously or intra-

muscularly, as well as to the method followed by some of giving the patient serum intraspinally two, three or even four times a day. A patient suffering from meningitis is critically ill and we must remember to treat the patient as well as the disease.

When patients do not respond favorably to several doses of serum, it is advisable to try a different serum. For some time we have been experimenting with various types of antibody preparations, often with successful results. In the instance of some patients who have become chronic, and in a few who have reacted unfavorably to serum, we have used an autogenous vaccine both subcutaneously and intraspinally. We have on record a number of patients who have responded favorably to vaccine therapy after becoming refractory to serum.

The general treatment of meningococcal meningitis is very much the same as that of any other acute infectious disease. The patient should be kept absolutely quiet; restlessness and sleeplessness, if present, must be overcome by adequate sedatives. Morphine hypodermically should be avoided if possible on account of its tendency to raise intracranial pressure (Kennedy and collaborators). Vomiting and headache are usually relieved when lumbar punctures are begun. The nutrition of the patient must be supported by adequate nourishment, preferably by small amounts at frequent intervals. If retention of urine occurs catheterization will be necessary. The obstinate constipation that is usually present may be combated by mild laxatives as milk of magnesia by mouth supplemented by enemas or high colonics.

A purulent arthritis may develop particularly in the septicemic type of the disease. This usually subsides with conservative treatment but in rare instances it may be necessary to aspirate the fluid and inject antimeningococcus serum. The eyes should be examined daily so that the early development of hypopyon, which usually indicates a beginning panophthalmitis, may be detected. If this occurs, the pupils must be dilated by atropine and hot compresses applied to the eye. Usually, however, the development of panophthalmitis cannot be checked.

Other complications may develop for which little can be done. Among these are brain abscess, deafness, endocarditis, pericarditis, and other focal infections by the meningococcus. Meningeal hemorrhage may develop in the course of meningitis and is usually, but not invariably, fatal. Repeated lumbar punctures constitute the only treatment for this condition.

There are three types of serum reaction that may occur. One is the very severe reaction resembling anaphylaxis that takes place im-

mediately after the serum is given. This is treated by adrenalin, given in the heart muscles if necessary, and by artificial respiration carried out in various ways. Fortunately, this type of reaction is most unusual following the intraspinal administration of serum.

Secondly, there is reaction to the intraspinal injection of the serum which consists in restlessness, headache, and rise in temperature, developing two to four hours after the serum is given and lasting for four or five hours. This varies very much in different individuals. It is treated by sedatives and ice caps to the head.

Thirdly, there is the ordinary serum sickness which comes on usually in ten to fourteen days after the first dose of serum. In some patients who are, for some reason, susceptible to serum, this may develop within a few hours after the serum is given. It is generally characterized by an urticarial eruption, often by some rise in temperature, and sometimes by an increase in the signs of meningeal irritation. It is occasionally difficult to decide, without a lumbar puncture, whether the patient is suffering from serum sickness alone or from serum sickness plus an exacerbation of the meningitis. If there is real doubt on this point, a lumbar puncture must be done. In some instances, there is swelling of the joints with resulting pain on movement as a manifestation of serum sickness.

Serum sickness responds, as a rule, to injections of adrenalin and to suitable local applications. The presence of this form of serum sickness is not a contraindication to the administration of serum intraspinally, if it is still indicated.

The case fatality in all other forms of meningitis is extremely high but the outlook is not entirely hopeless and every rational method of treatment should be used. If the case is secondary to a primary focus of infection this must be thoroughly eradicated if possible. Indeed, it may be eradicated before bacterial meningitis develops, as the presence of a serous meningitis or meningitis sympathica often gives adequate warning of the impending danger. By serous meningitis or meningitis sympathica we mean that condition which develops when there is a focus of inflammation near the meninges but not actually involving them. Under these conditions, the patient presents the clinical picture of meningitis. The spinal fluid is more or less hazy or cloudy with a cell count which may run up to several thousands. The cells show, as a rule, a predominance of polymorphonuclears, the protein is somewhat increased, but the spinal fluid sugar is normal, and there are no organisms by smear or culture. If the focus of infection is eradicated or if it subsides, under suitable treatment, the patient will recover. Unfor-

tunately, however, the serous meningitis is often a precursor of a bacterial meningitis. When the bacterial meningitis has developed repeated subarachnoid drainage is definitely indicated, supplemented by the injection of specific serum if it is available. If there is a bacteremia, the intravenous administration of the serum is also indicated. We do not believe that chemicals or dyes are of value with the possible exception of optochin or numoquin hydrochloride in pneumococcic infections. The intracarotid injection of chemicals and serums we regard as of no advantage and also as dangerous because thrombosis of the cerebral vessels may result.

Forced spinal drainage has been advocated of late. This consists in the intravenous injection of hypotonic salt solution (about half normal), a lumbar puncture being performed at the same time. A liter or more of the hypotonic solution is slowly injected intravenously with a resulting increase in the flow of the spinal fluid, providing that there is no tendency to blocking. If the flow of the spinal fluid is not definitely increased after 200 or 300 cc. of the hypotonic saline has been injected, the process should be stopped; otherwise the pressure of the spinal fluid will be dangerously increased. We have tried this procedure in a fairly large number of cases without particularly encouraging results. Under the right condition, however, it may be of value, but every precaution should be taken to ascertain that there is no blocking before it is begun, and no time is to be lost in stopping the treatment if the flow of the spinal fluid is not stopped.

In cases of staphylococcic or bacillus coli meningitis a bacteriophage should be tried intraspinally.

Influenzal meningitis deserves some special comment. It seems to be more often primary than secondary and it usually runs a rather subacute course. Both these factors are favorable as regards treatment. About 50 per cent of the strains isolated from the spinal fluid fall into one group and serums have been prepared in various laboratories, including our own. There is often temporary improvement following the use of the serum, but recovery occurs often frequently. It is possible that this serum can be improved by methods of increasing the antitoxic content. A study of the pathologic conditions at necropsy shows evidence of a diffuse toxemia in the toxic generation of many of the viscera. The serum, therefore, should be administered intravenously as well as intraspinally. Moreover, bacteremia is quite commonly present.

We have had a fair number of recoveries from various types of meningitis other than the meningococcus. Different methods of therapy have been employed but we have not

felt sure of the value of many of them except repeated subarachnoid drainage. There is one exception to this statement. Two cases of hemolytic streptococcal meningitis following scarlet fever recovered after the use of the antiscarlatinal serum. Both of the patients were critically ill and it seems reasonable to suppose that the serum exercise a specific action. It may well be that recoveries are often due to the fact that the infecting organisms are of lower virulence rather than to the type of treatment used. It is possible that something in the way of prophylaxis might be done in streptococcal and pneumococcal meningitis. If the common cold were not so often neglected and if infections of the ear and sinuses were treated early and adequately the incidence of these forms of meningitis might be lowered.

Recoveries that we have had in cases seen in New York City in the past twenty-five years are as follows:

From streptococcal meningitis	12
From influenzal meningitis	5
From meningitis due to Friedlander's bacillus	1
From staphylococcal meningitis	1
From unidentified diphtheroid bacillus	1
From meningitis due to <i>Bacillus evanidus</i> (a spore bearing gram-negative bacillus)	1
From mixed infections: Hemolytic streptococcal and meningococci	1
From mixed infections: Staphylococcal and meningococci	1
From unidentified gram-negative bacillus and meningococcus	1

It is evident that much research is needed before a satisfactory treatment is devised for types of meningitis other than the meningococcal.

Considering meningitis as a whole, however, there is a bright side to the picture. There are few if any serious diseases in which patients respond in such a gratifying way to adequate treatment as do patients suffering from meningococcal meningitis. Fortunately, too, most of these patients are restored to perfect health.

TABLE I
MENINGITIS—AGE AND ETIOLOGY

	Meningococcus	Pneumococcus	Streptococcus	B. influenzae	Tubercle bacillus	Miscellaneous	TOTAL
1-2-3 months	44	10	13	3	4	14	88
4-5-6 months	84	6	10	13	27	10	150
7-12 months incl.	95	17	4	24	107	21	263
Total under 1 year ..	223	33	27	40	138	45	506
1-2 years	96	14	5	36	189	10	350
2-3 years	61	11	12	16	113	8	221
3-5 years	156	19	23	21	165	13	397
5-10 years	247	33	94	14	142	29	559
10-20 years	273	29	33	7	103	40	485
Over 20 years	291	90	39	8	123	70	621
No age stated	11	6	5		13	4	39
Total	1358	235	238	142	986	218	3278

TABLE II
UNUSUAL TYPES OF MENINGITIS—AGE AND ETIOLOGY

	Staphylococcus	B. coli	Actinomyces	B. pyocyaneus	Friedlander's bacillus	Torula	Typhoid—dysentery	M. catarrhalis	Sporotrichosis	Mixed infections	Kind not determined	TOTAL
1-3 months	5						1	1		2	5	14
4 through 6	1									2	8	10
7 through 12	1			1						4	11	21
Under 1 year	6			1			1	1		3	24	45
1-2 years	1							1		1	7	10
2-3 years	1			1	1						5	8
3-5 years	3		1							2	7	13
5-10 years	4	1	1	1			1			3	18	29
10-20 years	7		3		2				1	7	20	40
Over 20 years	15	1	2	2	3	1				5	41	70
No age given											4	4
TOTAL	33	8	9	4	5	3	2	2	1	26	126	219

Present Status, Anticipation and Management of Toxemias of Pregnancy*†

NORMAN F. MILLER, M.D.
Ann Arbor, Mich.

The high maternal death rate of the United States has been a reprehensible exhibit for some time. Regardless of explanations, the fact remains that "No matter what method of procedure is used the United States retains an exceedingly high rate as compared with other countries." (1) Looking into the matter further, we find that our unenviable position is the result of: (1) Septicemia, (2) Puerperal albuminuria and toxemia, and (3) Hemorrhage. Still further examination reveals the lamentable fact that many of the deaths from these causes are preventable.

Being well aware of the extensive scope and involved character of my subject, I make no claim to completeness in this paper. My purpose is specifically to emphasize certain neglected fundamentals which I believe to be significant in the supervision of these cases.

Little is really known concerning the etiology of toxemias. Both the nature of the disease and microscopic study of tissue from patients dying of this disease have long suggested a poison or toxin of some sort as the etiological factor. Non-fatal cases appear to

*From Department of Obstetrics and Gynecology, University of Michigan, Ann Arbor, Michigan.

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(1) Comparability of Maternal Mortality Rates in the United States and certain Foreign Countries. U. S. Department of Labor, Bureau Pub. No. 229. Washington, D. C., 1935. Page 20.

suffer permanent injury to the paranchymatous organs which, however, may not become apparent until months or even years have passed. There is also much about the disease which suggests pre-existing organic weakness as its cause. This weakness is accentuated and brought to light by the load of pregnancy. While this is neither the time nor place for theorizing, I cannot pass up this opportunity to point out that the latter view is gaining support and, from a practical therapeutic standpoint, has much to recommend it. By assuming (correctly or incorrectly) the existence of an underlying organic weakness, much of the mystery surrounding toxemias is removed. The sequence of events and their explanation becomes, perhaps, a little less confusing. And of even greater moment, such an assumption stimulates treatment based on prevention and minimizes the importance of remedial measures the curative values of which in any given case are largely hypothetical. Although the increasing evidence suggesting primary underlying organic weakness is still unconvincing, that hypothesis justifies a more positive, decisive treatment. Let it be understood, however, that this etiologic concept has not been proved and should be adopted with an open mind.

In this discussion no attempt will be made to argue in terms of the child, the reason being that, once the child has reached a viable age, the treatment that best serves the interests of the mother usually proves to be the best for the child. In the presence of progressive advance of the disease the decision to delay interruption of pregnancy in the interests of the child is generally unsound. Experience has shown that babies born of mothers seriously ill with an advanced toxemia of pregnancy seldom do as well as babies born earlier of mothers less prostrated by their affliction.

STATUS OF TOXEMIAS: How importantly the toxemias have contributed to the high maternal mortality rate in this country is probably not generally known. The informed physician is aware of the fact that one of the three principal causes of maternal deaths is puerperal albuminuria and toxemia of pregnancy. Few, however, realize that as a cause of death, "... albuminuria and convulsions was exceeded in importance, numerically, only by puerperal septicemia. In the last trimester of pregnancy it was of equal importance with puerperal septicemia, each accounting for 31 per cent of the deaths of women in this period. Among the women in rural areas, both white and colored in the last trimester it was a cause of death numerically greater in importance than sepsis."⁽²⁾

Perhaps the best evidence indicating the status of the toxemias is to be found in the United States Department of Labor Publication No. 223, entitled, *Maternal Mortality in Fifteen States*. This study included 15 states well distributed geographically. The study covered the years 1927 and 1928 for 13 states and 1928 for two additional states. There were 1,176,606 live births during this period of study and 7,537 maternal deaths giving a mortality rate for the area of 64 per 10,000 living births. In the whole registration area for 1927 and 1928 together the maternal mortality rate was 67 per 10,000 living births. The physicians or others signing the death and birth certificates were visited and interviewed and hospital records studied. The results of this well-managed study are of more than usual interest and significance. Thirty per cent (2,221) of all the deaths in the study were preceded by some presumably toxic condition as the chief cause or the chief contributory cause. Most of these deaths, 1,900 or 26 per cent of the total, were due to puerperal albuminuria and convulsions (No. 148 in the International List of Causes of Death) and 220 deaths attributed to other primary causes had albuminuria and convulsions as the principal contributory cause. In 338 cases death occurred before the women had reached the last trimester of pregnancy; in 1,549 cases death occurred in the last trimester. In 13 cases the duration of pregnancy was not known.

These deaths, of course, include some other closely related diseases and do not indicate accurately the number due strictly to toxemia.

Perhaps this is as it should be for certainly the maternal death rate does not adequately portray the full toll of pregnancy toremias. The number of delayed deaths each year from injury brought on by pregnancy toxemias is much greater than suspected and this delayed mortality, while not included in maternal mortality figures, is nevertheless a very significant part of the picture. While all observers do not agree, the evidence of permanent damage following toxemia of pregnancy is so convincing that there is no longer room for doubt. Herrick (3) has shown that at least 50 per cent of women with acute eclampsia show cardiovascular disease with hypertension in subsequent pregnancies. Decidedly significant is the fact that every year there are more deaths from chronic nephritis among women of child-bearing age than among men in the same age group, though at other ages there are more deaths from chronic nephritis among men. In the 15 states studied by the United States Department of Labor for the period 1927-1928, 24,306 males and 19,887 females of known ages

(2) *Maternal Mortality in Fifteen States*, U. S. Dept. of Labor, Children's Bureau. Publication No. 223. Page 140-141. 1934.

(3) Herrick, R. P.: *Phases of Cardiovascular and Renal Disease Indicating Abortion*. J. A. M. A. Dec. 22, 1934. Vol. 103. P. 1920-1906.

died from chronic nephritis. Of these 2,282 (9 per cent) males were in the 15 to 44 year age group and 22,024 at other ages. Of the females 2,566 (13 per cent) died in the 15 to 44 year age period and 17,321 at other ages.

Stieglitz⁽⁴⁾ has found that among the nephritides of pregnancy he has studied pre-existent renal and or hypertensive disease constituted approximately 40 per cent. Furthermore, follow up studies revealed that within three years after hospital observation 80 per cent of these patients were in poor or bad condition. Peckham⁽⁵⁾ demonstrated in 1931 that 12 months after delivery more than 20 per cent of a series of patients with eclampsia showed definite evidence of permanent renal damage. In 1934 Peckham and Stout⁽⁶⁾ found that evidence of nephritis, usually arteriosclerotic in character, existed several years after delivery in 40 per cent of a group of toxemic patients from which cases of eclampsia and vomiting were excluded. Particularly significant is the recent follow up study made by these two men⁽⁷⁾ of 63 cases of low reserve kidney formerly considered relatively innocuous. At the end of a five year period over half of the cases analyzed showed evidence of definite renal involvement which in most instances was arteriosclerotic in character.

Moreover, there is reason to believe that with improved methods of study the incidence of permanent injury will prove to be even higher.

In order to obtain more recent information concerning puerperal albuminuria and eclampsia a study of available data from three representative states, Tennessee, Michigan and Massachusetts, was undertaken. As the available statistics were for 1934, the findings should be considered indicative of a trend rather than of conditions as they exist today. Interestingly enough, the number of deaths (not death rate) from this cause was found to be lower than at any other time in the statistical history of these states. This observation would seem to belie the need for concern, particularly since the death rate from this cause was also low. Nevertheless, much of the improvement is more apparent than real for the number of live births in these states for the same period also showed a marked decrease. In this connection it must not be forgotten that while statistics on puerperal albuminuria and toxemia still include some closely allied conditions the tendency to include deaths from other related causes was more prevalent in the early years of statistical compilation. There is, therefore, some justification for believing that statistics of the last decade come closer to in-

dicating the true death rate from pregnancy toxemias. A reason for holding that the present low death rate from toxemias does not necessarily indicate real improvement.

Except for data available in clinics or maternity centers there appears to be no satisfactory means of accurately determining the incidence of the toxemias (non-fatal cases). One can only guess, therefore, as to the real merit of treatment in reducing the number of cases with severe manifestations. Assuming no significant change in the incidence of puerperal albuminuria and eclampsia there is nothing about available statistics to suggest that the toxemia problem is any less pressing today than it was 30 years ago. While statistics from one state may not be convincing, it is impressive to note in this connection that in the state of Massachusetts the death rate from puerperal albuminuria and toxemia was lower in 1903 than in 1933. For the four year period 1903-1906, inclusive, the death rate in Massachusetts from this cause was but slightly more than for the four year period 1931-1934, inclusive.

One cannot consider these data and the fact that approximately 4000 women die each year in the United States alone from toxemias of pregnancy without feeling deep concern.

RESPONSIBILITY FOR EXISTING CONDITIONS: Responsibility for these deaths may be attributed to several clearly discernable factors:

1. Indifference toward prenatal care on the part of many physicians.
2. Ignorance on part of public concerning value of pre-natal care.
3. Poor cooperation on the part of patients.
4. Lack of positive code of treatment on part of physicians.
5. Reliance on remedies of hypothetical value rather than prevention and intervention.

These points are important and some of them warrant further consideration. Indifference toward prenatal care on part of physicians is especially significant. Too often such care is mere sham, a camouflage behind which a disinterested physician hides his dislike for obstetrics. A lackadaisical attitude on the part of the doctor not only leads to slipshod care later but also breeds apathy toward prenatal care among patients. This indifferent attitude is most often observed in those practitioners and general surgeons who do not enjoy obstetrics or among those whose knowledge of obstetrics is inadequate. To them prenatal care is a nuisance, a useless something which is being done and therefore tolerated. Unfortunately, elaborate studies⁽⁸⁾ on the evalua-

(4) Adair, F. L. and Stieglitz, E. J.: *Obstetric Medicine*. Lee & Febiger 1934. 1st edition. P. 550.

(5)

(6)

(7) Peckham, C. H. and Stout, M. L.: *Low Reserve Kidney*. Am. Jour. Surg. New Series. Vol. XXXI. No. 1. January, 1936. P. 92-97.

(8) Tyler, Watkins and Walker: *The Evaluation of Prenatal Care*. Yale University School of Medicine. Published by the Institute of Human Relations, New Haven, Conn., 1934.

tion of prenatal care incorrectly convey the impression that it is overdone, that its value is overestimated. Writers⁽⁹⁾ have expressed the view that prenatal care causes much meddlesome obstetrics. In a sense this is true. Prenatal care does reveal many borderline abnormalities and the inadequately trained physician, in order to circumvent anticipated complications, often resorts to unwarranted interference. These observers apparently fail to see, however, that it is the interpretation of findings made accessible by prenatal care and not prenatal care itself which is at fault. The impossible should not be expected. No amount of prenatal care can ever be an adequate substitute for good care at the time of confinement. Prenatal care should not be expected to prevent most complications of delivery. The criticism that prenatal care leads to meddlesome interference simply means faulty interpretation of findings. Good care during the antepartum period leads to discovery of significant information which in turn must be evaluated properly. This implies adequate obstetric training and judgment on the part of the physician. Lack of such training or judgment and the consequent faulty interpretation of signs and symptoms is not a valid indictment of prenatal care. It is unfortunate but true, that an attitude of indifference is all too common. The half-hearted care provided by physicians holding this view is to be heartily condemned.

Equally unfortunate in its results is the conviction held by the public and tolerated by medical men that every physician is an obstetrician. Physicians have long been aware of this falsification of fact but slow to admit it and still slower to attempt rectification. Now, however, the public is beginning to sense the situation and as a result the time is not too remote when the physician will either prepare himself adequately for the practice of obstetrics or else leave this fundamental branch of medicine to his properly qualified colleagues. The public is becoming interested in obstetric matters and it is quick to take note of shortcomings in obstetric practice. From this we may conclude that we are witnessing the beginning of a new era in obstetrics. Alert and educated young women of today are the potential mothers of tomorrow. They recognize the need for, and demand greater safety in this, the most important event of their lives.

Doctors are still looked upon as leaders, and in medical matters the public often takes its cure from physicians. Much of the unresponsiveness of patients toward prenatal care is but a reflection of an indifferent attitude on the part of medical men. When the value of prenatal care is fully recognized and properly interpreted by the medical profession and this

interest reflected in cooperation on the part of patients, then the battle against unnecessary deaths from the toxemias of pregnancy will be more than half won.

ANTICIPATION OF TOXEMIAS OF PREGNANCY: Prevention of serious toxemia of pregnancy is better than reliance on curative measures. Consequently, early recognition or anticipation becomes a matter of vital importance. While the serious manifestations of toxemia may develop in rapid sequence, they seldom appear without some warning. Early recognition of impending disease depends on discovery and recognition of these couriers of the disease. There is nothing difficult or mysterious about this. The signs and symptoms are varied and ample. But, since toxemia in some form occurs only once in about every 130 patients, its discovery calls for diligent and persistent scrutiny of every pregnant patient. To accomplish this, thorough understanding and application of prenatal care is required. While the fundamentals of such care are well known, a brief consideration of the silent signs and the more conspicuous symptoms of specific importance in the anticipation of toxemia may not be out of place.

ALBUMINURIA: The first, and probably least significant, of the triad of silent significant signs is albuminuria. Fortunately, to most physicians albuminuria is still a red flag of danger in spite of its demotion in recent years to a position of less prominence as a criterion of nephritis and severity of disease. Whatever significance it may lack as a sign of renal disease, its practical value as a warning of potential danger during pregnancy need not be questioned. Consequently, careful urinalysis at the time of each visit—best done by the physician himself—is of fundamental importance and should never be neglected.

WEIGHT: The second of the triad of silent signs is weight gain. The normal gain during pregnancy is 20 to 25 lbs. Usually this gain is distributed over the entire period of gestation with more pronounced tendency to gain from about the 4th to the 9th lunar month. Every patient should be weighed at each visit and any abrupt or abnormal gain regarded with suspicion. It may indicate storage of fluid in the tissues of the body, a significant sign which often precedes by considerable time any visible evidence of edema. Abrupt or abnormal gain in weight must be looked upon as one of the signs of potential trouble.

HYPERTENSION: Third, and most important, of the three silent signs is rise in blood pressure. This is also the most capricious of the three. Susceptible to nervous or emotional upset and physical strain it may show con-

siderable variation. While the basic level is important the relative rise is even more so and is generally a fairly accurate indicator of the severity of the toxemia. Routine blood pressure readings are indispensable in the anticipation of pregnancy toxemias.

SYMPTOMS: Sometimes more manifest but less readily appraised are the symptoms—headaches, visual disturbances, epigastric pain, nausea and vomiting—commonly associated with the toxemias. Always suggestive, they assume tremendous significance when associated with the signs already mentioned. It is seldom that the warning signs and symptoms necessary for early recognition of impending toxemia are absent. Failure to discover them is the chief obstacle to successful prevention. It should be apparent that prenatal visits are for a definite purpose. Simply to reassure or to visit with the patient is not enough if we are to stamp out the toxemia scourge.

MANAGEMENT OF TOXEMIAS OF PREGNANCY: While perception of the disease is of first importance, its value goes for naught should the physician fail to assert his prerogative of prescribing appropriate treatment. Unfortunately the preventive aspects of treatment are widely neglected. Since prevention cannot be equally applied to all patients, its oversight may seem more apparent than real. Scrutiny, however, reveals the distressing fact that neglect of preventive measures is very real. More often than not, opportunity for prevention is actually fumbled by the physician. The presumably healthy woman in her first pregnancy and the parous woman without history of organic or previous toxemia are not subjects for preventive treatment. It is among parous patients who give a history of renal and vascular complications or among those who exhibited a toxemia in a previous pregnancy that we find our opportunity for prevention. The woman who ventures upon subsequent pregnancies after having already demonstrated her physical shortcomings in the form of hypertension, albuminuria, and, perhaps more vividly, convulsions, is inviting disaster. The fact that the penalty for such folly is not always immediately evident, does not minimize the situation. Although residual damage varies and may not readily be demonstrated in every case, it is probable that few women escape some permanent injury as a result of toxemia during pregnancy. Once successfully through her pregnancy, the affected individual should not again deliberately subject her below-par organs to injury. To do so may precipitate an even more severe episode and may very probably shorten her life. Evidence already presented concerning remote effects of the toxemias might well be reviewed at this point.

In generally advocating the inadvisability of another pregnancy for women presenting a history of toxemia (and nephritis) I am not unmindful of the fact that physicians can recall patients where recurrence of the toxemia did not take place. Doubtless there are many such cases. But perhaps if adequately followed these patients would ultimately be found to have a damaged cardio-vascular system. I would not say that every woman presenting a history of previous toxemia should forego subsequent pregnancy. To do so would be to ignore completely the fact that some escape permanent injury and make a complete recovery. But from a practical standpoint, one cannot overlook the fact that, contrary to older teachings, toxemias do recur. Moreover, the increasing evidence pointing to a tremendously high incidence of permanent damage calls for serious thought. Similarly, one cannot ignore the fact that tests directed toward the efficiency of the vascular and renal systems are woefully inadequate. The time will undoubtedly come when improved functional tests will permit evaluation of these patients with a greater degree of accuracy. Until that time arrives, it is imperative that physicians consider seriously the hazards of repeated pregnancy in women presenting a history of toxemia. This risk of recurrence and permanent injury may be justified in cases where there are no living children and where evidence of injury from previous toxemia is minimal. Given a live child, however, the potential hazards entailed by additional pregnancies does not appear justified, and it becomes the physician's duty to discourage such possibility. Remember a child's greatest asset is a living, healthy mother. Better one child and a healthy mother than many children who may ultimately become public charges, due to the untimely death of the mother from cardio-vascular and renal disease precipitated and aggravated by repeated pregnancies. It is among those patients who come to us with clear warnings that we find the greatest opportunity for prevention. It is an opportunity which comes to almost every physician—an opportunity seldom recognized and often fumbled.

MANAGEMENT OF ACTIVE TOXEMIA: Treatment of an existing active toxemia rests primarily in the control of symptoms or, where this fails, in termination of pregnancy. Except for termination there is, as yet no cure. True, the almost complete subsidence of symptoms occasionally noted following sedation, or other methods of treatment lends to the belief that sedative drugs have curative value. More likely, however, the improvement is but a calm before the storm. The symptoms may be held in abeyance but actual cure of the disease by such means probably does not occur. Wheth-

er we adopt the Stronganoff, Arnold and Fay, Dublin, or any other acceptable means of symptom control is in my opinion a matter of secondary importance. These methods are of tremendous value in the management of toxemias but they should be seen in their true light. The future may see a cure for toxemia of pregnancy but until that time arrives our only method of accomplishing this is through timely intervention. Recognition of this fact is fundamental and of primary importance in the management of these cases. By so doing we are less likely to find ourselves in the embarrassing position of neglecting life-saving timely termination to grasp at remedial straws the value of which are often in doubt. True, these remedial straws often constitute the difference between life and death when convulsions are present but they remain straws of questionable value even then.

Obviously the application of any method or system of treatment depends upon a variety of factors, among them the severity of the toxemia and the physician's attitude. With reference to the former we may for practical purposes, divide the cases into (1) those first seen before the onset of convulsions, and (2) those first seen during or after a convulsive attack.

The physician's attitude toward the disease and its treatment is not so readily classified but it is important. I would urge upon every physician a positive idealism toward treatment. There is no longer room for thumb-tweeding, dilly-dallying vacillation. Timidity and indecision have no place. Every physician should adopt a positive workable code of treatment, characterized in general by the following points.

1. Early recognition of toxemia.
2. For immediate therapeutic purposes classify according to severity, i.e. mild, moderate, severe and convulsive. This practical group facilitates treatment but does not lessen the desirability of classification according to etiology.
3. Use accepted methods of symptom regulation only so long as the disease remains adequately controlled.
4. Recognize that aside from termination of pregnancy there is as yet no cure.
5. Abandon the policy of metaphorically crossing the fingers or a watchful wasting of opportune time for carefully meditated induction of labor.
6. Adopt a policy of reasonable therapeutics followed by decisive action when control of symptoms is no longer possible or advisable, regardless of duration of gestation.
7. Don't return to obsolete, radical, shocking methods of terminating pregnancy for patients first seen during or after convulsive seizures. The high mortality associated with

such treatment has long since demonstrated its undesirability.

8. Remember the high incidence of permanent injury. Watch for it and guard against further damage by disapproving additional pregnancies.

9. Recognize and accept the opportunity for prevention. To do so not only leads to reduced mortality from toxemia but from cardiovascular and renal complications later in life.

10. Adopt a decisive, positive attitude toward the disease, characterized primarily by prevention, and timely intervention when symptomatic control fails or no longer appears desirable.

With a definite policy regarding the disease and its treatment the physician approaches the problem without hesitation. With the appearance of signs and symptoms appropriate means of symptom control can be inaugurated. Since no one method has yet demonstrated its unquestioned superiority and since all methods have been well advertised, it seems both unwise and unnecessary to attempt a review of them here. Individual whims and personal idiosyncrasies reflected in treatment by preference for this or that sedative or drug are relatively unimportant. There is generally more than one way of arriving at the same goal. Most fashionable methods today are but modifications or offshoots of such notable procedures for symptomatic control as described by Stroganoff (sedation), Arnold and Fay (dehydration) and others. The remarkable results reported by Stroganoff and his followers are well known. Similarly, the method advocated by Arnold and Fay has shown promise. Reports by the originators of these valuable means of symptom control and modifications thereof are readily available in the literature and should be carefully scrutinized by all who would practice obstetrics.

By use of accepted methods it is generally possible to carry the patient into the seventh or eighth month of gestation. Should the disease become progressively worse in spite of efforts directed toward its regulation then interruption of pregnancy is indicated regardless of duration of gestation. In view of the real threat of disaster associated with progressive advance of the disease I find it difficult to understand the general reluctance toward interruption during the last trimester. It is particularly difficult to reconcile this hesitancy with the acquiescence generally accorded termination because of complicating cardiac, renal, pulmonary or other disease. The tendency to carry patients a little longer in spite of advance of the disease is seldom justified. The hope for a living child is often in vain and the additional hazard to the mother renders the wisdom of such delay extremely doubtful.

ful. Every woman with a progressively advancing toxemia of pregnancy, metaphorically speaking, is sitting on a powder keg and I seriously question our right to keep her there.

When termination of pregnancy is indicated great care should be given selection of method. This may be accomplished by medical induction, rupture of membranes, bagging or use of a bougie and occasionally cesarean section. Whatever the method, it is imperative that its use be timely. For details concerning methods of inducing labor the reader is referred to any standard text on obstetrics.

Excessive reliance on symptomatic control in progressively advancing toxemias is to be avoided. Earlier interruption of pregnancy in the unresponsive case will materially reduce the number of patients reaching the convulsive state. More cooperation between patient and physician will have a similar desirable effect. The importance of these two factors and evidence of their general neglect is emphatically illustrated in the United States Department of Labor report already referred to. Of the 1900 women dying from puerperal albuminuria and toxemia 521 had no convulsions before death. In 74 cases it was not ascertained whether the women had had convulsions or not. But in 1305 cases death was preceded by convulsions. The evidence is irrefutable.

Differential Diagnostic Difficulties In Leukemia*

R. H. JAFFE, M.D.
Chicago, Ill.

INTRODUCTION

When Virchow coined the term "leukemia" he was under the impression that the disease was due to an enormous increase in number of the white cells of the circulating blood. Later, it became apparent that the changes in the blood were secondary to a hyperplasia of the organs of blood formation and that the changes of the blood was merely a symptom that might vary in intensity and, at times, might be absent. One learned to distinguish between the leukemia in which the lymphocytopoietic organs were involved and the leukemia which resulted from an excessive proliferation of the myeloid tissue. To these two types of leukemia a third one has been added which is characterized by the excessive production of monocytes. It has also been recognized that leukemia often takes an acute course either as the terminal phase of the

chronic form or as an apparently independent disease. There is still considerable discussion in the literature whether acute and chronic leukemia are identical conditions or whether they are fundamentally different. According to my opinion no essential differences exist between acute and chronic leukemia save for the duration. In both the basic pathological process is the same. The chronic leukemias start insiduously and progress gradually and the first clinical manifestations are due to the enlargement of the blood forming organs (lymph-nodes, spleen, liver). The cells which appear in the peripheral blood show some degree of maturation and there is not the wide gap between very immature cells and mature cells which is typical of acute leukemia. The latter takes a rapidly fatal course and anemia, hemorrhagic diathesis and gangrenous lesions of the visible mucus membranes are the outstanding clinical findings which may be followed by enlargement of the lymph-nodes, spleen and liver. It is this rapid course with the septic complications which has induced some investigators to relate the acute leukemias to septicemia. If one lists a large number of cases of leukemia according to the duration one will obtain a continuous line, and one will not be able to determine a definite border where the acute type ends and the chronic type begins. The chronic leukemias are more apt to run true to form whereas the acute leukemias may cause great differential diagnostic difficulties.

Based upon the study of a large number of cases of leukemia I have come to the conclusion that the definition of leukemia as an hyperplastic condition of the blood forming organs is too narrow and does not take into consideration certain atypical forms which, though rare, allow an excellent insight into the nature of the leukemic process. Generally speaking, in leukemia the entire mesenchyme is involved which throughout the body acquires the ability to produce blood cells. Besides the organs of blood formation leukemic changes may be encountered in the skin, the genitourinary tract, the digestive and respiratory tract, the periosteum, the meninges and peripheral nerves. The first clinical symptoms may be due to the leukemic infiltrations outside the blood forming organs and these symptoms may precede the classical leukemic manifestations for weeks or even months. Thus leukemic infiltrations of the skin or compression of the spinal cord by leukemic infiltrations of the dura matter may be observed before the lymph-nodes and spleen are enlarged and the blood picture becomes leukemic.

Differential diagnostic difficulties in leukemia may be caused by two factors. First, the leukemia may appear under the clinical or hematological picture of another disease as for

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instance morbus Banti, pernicious anemia or purpura hemorrhagica. Second, another disease may resemble clinically or hematologically leukemia as for instance acute septicemia chronic septicemia or infectious mononucleosis.

I shall first discuss the cases of leukemia the clinical picture of which is misleading. In these cases the examination of the blood often yields little information since the total number of the white cells may be within normal range or even below normal and immature blood cells may be absent or so few in number that they are easily overlooked or attract no special attention. The aleukemic or subleukemic blood picture persists sometimes through the entire course of the disease or is followed later by typical leukemic changes. Some leukemias show alternating aleukemic phases indicating the necessity of frequently repeated blood counts. Diagnostic difficulties are particularly apt to arise if the leukemic process produces changes and symptoms which are observed in other diseases and in the differential diagnosis preference will be given to these other diseases if one relies only on the blood findings.

In ALEUKEMIC MYELOSIS which was first described by Bezancon and Labbe a moderate and slowly progressing anemia and a marked splenomegaly are the outstanding symptoms. The total number of the white cells does not exceed the normal range and also the differential count is normal. There may be a few neutrophilic myelocytes and metamyelocytes, an increased number of basophilic granulocytes and a few nucleated red blood cells. These cases of aleukemic myelosis are usually diagnosed as splenic anemia, Banti's disease, Gaucher's disease or chronic septicemia (sepsis lenta). In the course of the disease a leukemic blood picture may gradually develop but in many instances the case remains a puzzle until the necropsy discloses its real nature (Jaffe). If splenectomy has been performed the microscopic examination of the spleen will give definite information. During life examination of the sternal marrow (Custer, Osgood, Dameshek a. o.) or aspiration and examination of splenic fluid (Carnot, Caroli and Busson) are of great diagnostic value.

In aleukemic or subleukemic myelosis of long duration the bone marrow may become exhausted and replaced by fibrillar connective tissue which produces bone. The marrow cavities obliterate and the bone becomes very dense and compact. In this osteosclerotic type of chronic myelosis the roentgenological picture of the bones resembles very closely that of primary osteosclerosis (marble bone disease of Albers-Schoenberg). Albers-Schoenberg disease is inherited and congenital starting early in life while osteosclerotic myelosis is a dis-

ease of more advanced age. The hyperplasia of the spleen which is commonly encountered in Albers-Schoenberg disease is due to a myeloid metaplasia which compensates for the lack of bone marrow (Maeros, Hagedorn, Jones, Schmidt, Zadek, Wolf, Stephens and Bredek).

LYMPHATIC LEUKEMIA takes more frequently an aleukemic course than does myelogenous leukemia. Aleukemic lymphatic leukemia is difficult to distinguish from Hodgkin's disease and the generalized, hyperplastic tuberculosis of the lymph-nodes. Histological examination of an extirpated lymph-node will usually establish the correct diagnosis. In lympho-sarcoma which may be associated with a leukemic blood picture (Sternberg's leukosarcomatosis) one group of lymph-nodes is mainly affected and the lymph-nodes are fused together with invasion of the adjacent structures (muscles, skin, blood vessels).

There is a rare form of lymphatic leukemia which starts in the skin and may remain confined to the skin (Roessle, Jaffe a. o.). The firm infiltrations of the skin which show a predilection for the face, especially the region about the nose, may suggest a malignant tumor of the skin or the d'emblee form of mycosis fungoides differentiation being possible only on the basis of the microscopic picture of the affected area.

To the group of atypical lymphatic leukemias a type may be added in which the proliferation of the lymphatic cells is restricted to the bone marrow, and spleen and lymph-nodes are not affected. Aubertin has suggested the name "Medullary Lymphatic Leukemia" and cases belonging into this group have been reported by Liotta, Fried, Hirschfeld and Zanatz.

In its incipient stage ACUTE LEUKEMIA is often overlooked. This holds particularly true of acute leukemia in children. Osseous and articular manifestations may precede the onset of the typical leukemic symptoms for many weeks (Ehrlich and Forer a. o.) and swelling of the joints associated with pain, sensitiveness to touch, redness and attacks of fever usually lead to the diagnosis rheumatic fever. The progressing severe anemia and the failure to respond to salicylates should point to the possibility of the early stage of an acute leukemia (Sutton and Bosworth, Smith a. o.). Roentgenological examination of the bones may prove to be of value, rarefaction of the bones, especially near the epiphyseal line, and periosteal lifting and thickening speaking in favor of leukemia (Snelling and Brown, Erb, Smith, Krauspe, Yoynton and Lightwood, Vogt and Diamond, Taylor a. o.).

In many cases of acute leukemia the first symptoms are caused by the hemorrhagic diathesis. The low platelet count which is very common in acute leukemia may lead to the di-

agnosis idiopathic purpura hemorrhagica (Werlhof's disease). Because of the hemorrhages from the gingiva and the hemorrhages about the joints and into the muscles sporadic Scurvy may be considered. Other diagnoses which I have encountered in cases that later turned out to be acute leukemias are: malignant endocarditis (petechiae in skin, conjunctiva and visible mucus membranes), septic abortion (severe vaginal bleeding), typhoid (severe intestinal hemorrhage), hemorrhagic glomerulo-nephritis (renal hemorrhages) and pachymeningitis interna (hemorrhage into the dura mater).

Other sources of error in the diagnosis of acute leukemia, at a stage when the blood findings are not yet characteristic, are the necrotizing lesions in the oral cavity and pharynx which suggest the diagnosis Vincent's angina, septic sore throat or diphtheria.

Besides the leukemias in which the blood changes are non characteristic there are a series of cases in which the **blood findings are confusing** since they resemble closely those observed in other diseases of the blood forming organs. Thus a chronic myelogenous leukemia may present, for many months, the blood picture of "**Polycythemia Rubra Vera**" with an increase in number of the red blood cells that exceeds by far that of the white cells (Weber and Bode, Minot and Buckman, Rosenblum and Krimer, Meulengracht and Petri, Zimmermann and many others). The red cell count may drop later with the development of a frank leukemic blood picture. In some cases, there persists an enormous hyperplasia of all the myeloid elements (panmyelosis Oliveira).

In acute and subacute leukemia the leukemic phase is sometimes preceded by severe **anemia** or the anemia may remain the outstanding hematological feature until the patient's death (Micheli and Penati, Jaffe a. o.). This anemia may be of aplastic, microcytic hypochromic or macrocytic hyperchromic type. In the two latter types of anemia the lack of response to anti-anemic treatment (iron and liver respectively) should induce the physician to consider the possibility of a leukemia. It is especially the pernicious anemia like blood picture to which I would like to call attention since I have seen it repeatedly in acute and subacute leukemia (see also Baldrige and Fowler, Beiglboeck, Kracke and Garvor and Reichel). Italian investigators refer to a pernicious anaemia with splenomegaly which they call "type Pende" (Santucci).

Aplastic anemia will be considered if all the formed elements of the blood are decreased in number, evidences of regeneration in the peripheral blood are absent and profuse hemorrhages dominate the clinical findings. Some

authors state that "agranulocytosis" may be confused with leukemia while others suggest pathogenetic relations between the two diseases. These statements, however, are not correct since in agranulocytosis there is no or but a slight anemia and the number of the platelets is not diminished. Furthermore the underlying pathological process of agranulocytosis is fundamentally different from that of leukemia. In rare cases of acute leukemia the perihelal blood shows a large number of immature red blood cells and in the internal organs erythropoiesis predominates over the production of immature white blood cells (erythroblastosis-Pinkertown, Jordan, Hartmann and Voit, erythroleukemia-Ferrata, Fontana, Ghiron, Di Guglielmo, Sorrentino).

Emile Weil and See and Bonanna describe a type of myelogenous leukemia in which the increase in number of the white cells is chiefly due to mature polymorphonuclear leucocytes which gradually become replaced by less mature cells.

I shall next discuss the occurrence of **leukemoid blood pictures in non leukemic conditions**. This question is of great importance since in some of these conditions the prognosis is favorable while in leukemia it is always very grave. **Acute septicemia**, especially in young individuals, may lead to excessively high values of the white cells and counts of up to 100,000 have been repeatedly observed. The similarity with acute leukemia is most striking if, in addition to a rapidly progressing anemia and a hemorrhagic diathesis, very immature white blood cells (promyelocytes and myeloblasts) appear in the peripheral blood stream. Even in the presence of numerous very immature blood cells there is a significant difference between the septic and acute leukemia blood changes. Namely, in septicemia the immature blood cells are linked by all transitional forms to the mature blood cells, and from the myeloblasts a continuous line leads over the promyelocytes, myelocytes and metamyelocytes to the polymorphonuclear leucocytes. In acute myelogenous leukemia, however, there is a wide gap between the myeloblasts and the few remaining neutrophilic leucocytes which has been called by Naegeli the "hiatus leucaemicus." That even very experienced hematologists may occasionally be puzzled by the recovery of a supposed acute leukemia is well illustrated by the cases which Herz, Downey, Telter and Gloor have described.

The similarity between chronic aleukemic and subleukemic myelosis and sepsis lenta has already been referred to. By frequently repeated blood culture one will usually succeed in isolating the green streptococcus in chronic septicemia (sepsis lenta.) In doubt-

ful cases one will have to resort to bone marrow biopsy or splenic puncture.

Blood changes suggestive of lymphatic leukemia are sometimes observed in **whooping cough**, particularly in small children and when complicated by measles. In these cases I have seen white counts up to 100,000 and Reiche even reports on a white count of 170,000. There is an enormous predominance of the cells of the lymphatic series which, however, are mainly of the mature type with compact and coarsely trabeculated nuclei whereas in acute lymphatic leukemia the predominating type of cell is usually a very immature lymphocyte with loose nuclear pattern. In German measles many irritation forms and plasma cells are sometimes found but because of their ample, deeply basophilic cytoplasm they can be easily differentiated from the immature lymphocytes of leukemia. In all these cases the practically normal red count is one of the most important differential diagnostic sign.

The absence of a marked anemia distinguishes also the **infectious mononucleosis** from the acute leukemias. According to Downey and McKinlay and Downey the lymphocytosis of infectious mononucleosis is characterized by a very typical lymphocyte which is distinctly different from the immature lymphocytes seen in acute leukemia. In different cases of infectious mononucleosis the finer morphology of these atypical lymphocytes may vary considerably. Recently Osgood has called attention to a peculiar fenestration of the nuclei of some of the lymphocytes which he thinks is pathognomonic of infectious mononucleosis. In addition to the morphology of the blood cells which may require great experience I can recommend highly the test described by Paul and Munnell for heterophilic antibodies which, in the modification devised by Davidson, has given me excellent results. This test is positive in a high percentage of the cases of infectious mononucleosis while it is constantly negative in acute leukemia (see also Weinstein and Fitz Hugh.) Leukemoid blood pictures have been described in tuberculosis and in malignant neoplasms. In some of these cases it will be difficult to exclude the possibility of a combination of these diseases with a true leukemia.

As far as eosinophilic leukemia is concerned I agree with Brunslick and Sickl, Zorini and others that its existence is very doubtful although in some cases of myelogenous leukemia a high percentage of eosinophilic granulocytes may be encountered. In the cases in which a large number of mature eosinophiles are found the eosinophilia is undoubtedly reactive in nature.

Finally I wish to call attention to the fact that in **pernicious anemia** the administration

of liver may be followed by the appearance in the peripheral blood of very immature white blood cells (Brugsh and Nagelbach). This leukemoid phase is but of short duration. Recently I have seen a case of pernicious anemia with a red count of 1,200,000, a hemoglobin content of 30 per cent and a white count of 12,500 which, after liver treatment had been started, showed in the blood smears not only showers of nucleated red cells and hematogonias (megaloblasts) but also 5 per cent myeloblasts, 13 per cent promyelocytes and 6 per cent metamyelocytes. Within a few weeks the abnormal white cells disappeared and the red count rose to 4,180,000 while the hemoglobin content increased to 70 per cent.

CONCLUSIONS

From the discussion of the difficulties in the hematological diagnosis of leukemia it is apparent that the correct interpretation of blood findings suspicious of leukemia requires skill, experience and a thorough familiarity with the physiology and pathology of blood formation and blood destruction. I want to emphasize that the analysis of a blood picture sometimes is more difficult than the histological diagnosis of an intricate tumor, and that the changes of the blood in leukemia have only the significance of a symptom which, at times, is absent. If one suspects that the leukemic cells are so few in number that they may escape detection enrichment of the white cells as recommended by Gaspari and others may be tried. The recent improvement in the technic of bone marrow biopsy from the sternum will undoubtedly help to solve many of the obscure cases in which the examination of the blood gives no definite clue. Last but not least, one should always keep in mind that morphological changes of the blood can be judged only if one correlates them with the clinical observations.

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American Medical Association, the Mid-South Post Graduate Assembly, the Memphis and Shelby County Medical Society and the Louisiana Medical Society.

Dr. Stanley leaves his widow, Mrs. Lillian Lang Stanley, two sons, Joseph B. Stanley, lieutenant in the Army Air Corps, and Robert E. Stanley, ensign in the navy, and a brother, John C. Stanley, of Miami.

R. M. Adams, M.D. Ripley, Miss.



Is the president-elect of the Mid-South Post Graduate Medical Assembly. He is a general practitioner who has spent all of his life in the hill country of northeast Mississippi. Before he acquired his degree in medicine he taught in the public schools of his section for several years. When he married he chose a daughter of a doctor, Dr. W. M. Murray, of Ripley, and the granddaughter of Dr. John Y. Murray, well-known over the state as a doctor of unusual ability in his day.

Dr. Adams has a son doing plastic surgery in Memphis, a son practicing law, and another studying medicine.

He is a man of feeling and vision, warmth and candor; progressive in spirit, and has ideals for the profession that are bound to make a bigger and better Mid-South while he is at the helm.

Dr. Joseph Stanley Dies

Dr. Joseph B. Stanley, widely known Memphis psychiatrist, and son of the late Dr. R. S. Stanley, died at his residence, 1888 Central, recently following an illness of about 10 days. He was 54 years of age.

Dr. Stanley was born in Rienzi, Miss., and was graduated in medicine from the University of Tennessee. He was a member of the

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R. B. Caldwell, M.D.	Jos. E. Green, M.D.
Thomas J. Brown, M.D.	W. H. Frizell, M.D.
D. J. Williams, M.D.	

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Note the program of the "13 County Medical Society." This is a mighty fine program. Starkville is a fine place to meet. It is a good town and at it is located a fine college. At Starkville you will find a mighty clever bunch of doctors. You will receive a most cordial welcome. The entertainment will be good. Dr. Hunter Scales will see to this. He never fails. He will have plenty of cooperation. Dr. Dorsey, of Troy, Pontotoc County will preside over the meeting. He is worthy and well qualified. The honor of president was well bestowed when conferred upon him. Let us turn out in full force. Every doctor should attend his local society and should pay his dues.

Every one is delighted that Dr. Bryan is able to be up and on the job again. You will read his discourse in this issue with much pleasure. Dr. Bryan has seen much service in organized medicine in Mississippi as you no doubt noted in our last issue, in our Who's Who in Mississippi. Medicine written by Dr. Felix J. Underwood.

Our state medical association meets in Greenville this year, May 5, 6, 7. We believe it will be one of the best meetings we have had for many years. We should have not less than five hundred doctors in attendance. We will have a good scientific program. You may depend upon this. They will be worth your time. The mingling with your fellow doctors will be very valuable. No doctor should try to live and practice to himself. You will not succeed in a big way if you do. You will get a good idea from every man with whom you converse if you will pay attention. You have ideas that others need. You owe some time to organized medicine. You can not hope to grow medically without attending your state meeting, without belonging to your state society and paying your dues. Dr. Morris Fishbein is on the program this year. It will be worth your time to hear him. He is the editor of the great American Medical Journal. He has a great store house of information. He is a most entertaining speaker. In our next issue we hope to have the pictures and the subjects of the visiting essayists. We will have local men who will bring us the very best in medicine and surgery, public health and the specialties. Greenville is looked upon as the Capital of the Delta. It is really a medical center. Its atmosphere charged with the Delta spirit is worth your breathing for a three-day period. Let us make our plans now to meet on the banks of the Father of Waters for pleasure and for profit.

The Mid-South was a fine success, the last meeting. The attendance broke previous records. The program committee is to be congratulated. Dr. A. F. Cooper is to be praised for his work on the program and for all his niceties in secretary technique. Dr. Gilbert Levy had the exhibitors there to the limit of space. He is a corner stone in the association. The medical profession of Memphis did its full duty as usual. Dr. H. King Wade presided in fine style assisted by the vice presidents. And we would not forget the optimistic smile and cordial greeting of Mr. Lee, the door keeper. The meetings grow bigger and better.

Dr. C. R. Crutchfield of Nashville, takes over the presidency, and Dr. R. M. Adams of Ripley, Miss., is the president-elect. We predict that Dr. Crutchfield will increase the attendance from his city and that Dr. Adams will be strictly on the job for the general welfare as he has been for more than thirty years.

People still get sick and die of common every day diseases. The big field for service right now is with the general practitioner in treating same more efficiently, in preventing them, in educating his clientele to more healthful living.

Mississippi has a fine public health department. There is no conflict between public health and general practice, should not be. We would like to see the time when the medical profession will be so efficient that there will be no work left for a public health department. But in the mean time let us be proud and go forward.

Subscriptions to the Mississippi Doctor have been coming in at a fine rate. We thank you. Tell your neighbor. He will want to read the papers at the Mid-South. We have practically every paper this time, or a good outline of it. The Mississippi Doctor will carry a hundred other fine papers.

The medical fraternity of Mississippi deeply regrets the serious illness of Dr. Jack Barksdale of Jackson. We are glad to know that he is regaining his health rapidly as he is visiting down in Florida. Dr. Jack is one of the ablest and most brilliant surgeons of the Southern states.

May 11-15 the American Medical Association meets in Kansas City, Mo. It is not so far away. Many Mississippi Doctors should attend this association. Keep the date in mind and make your plans.

Read what the council has to say about the resettlement practice. Don't expect too much income from this source. It may not last long. The county society can handle the matter all right.

Everything else being equal please trade with the firms who advertise in The Mississippi Doctor. We believe this is a reasonable request. Thank you.

The anesthetic may be depressing to the patient. Roasting him with too many blankets adds insult to injury and takes away from him precious fluids that are most valuable.

If you have not read a copy of the "Soul of the Surgeon" you are the loser. It should be read by every doctor in the state and by thousands of the laity.

The physical, mental and moral reclaiming of human beings is more important than the rebuilding of a stone house. Here in lies a fine opportunity for the medical profession.

The general practitioner in the small town needs to be the most broadly educated man possible.

In our next issue we expect to introduce the new members of the State Board of Health.

Some men will pay five dollars for a bare room at a hotel and then fuss at four dollars at a hospital when it includes board and nursing. Strange, isn't it?

Greenwood is adding a forty-five thousand dollar hospital addition. This is fine. It is a good town and this is a good deed.

While Dr. Rudolph Matas, of New Orleans, slept unaware the medical world did him honor and itself in the doing.

The next meeting of the Southern Medical will be in Baltimore November 17-20. It will be good to be there.

The per capita distribution of funds for the indigent sick is the fairest and most economical plan.

Speaking of a lost art does not always apply to anesthesia, some have never found it.

"Eighty-five per cent of the practice should be done by eighty-five per cent of the practitioners."

"The physician should have a professional mind, a medical soul, and a missionary heart."

Program

and Invitation of the
NORTHEAST MISSISSIPPI 13 COUNTY
MEDICAL SOCIETY
FIRST QUARTERLY MEETING
Tuesday, March 17, 1936
at Starkville, Oktibbeha County, Miss.
1:00 p. m.

The visiting doctors and their wives will be entertained with a dinner, given by the doctors of Oktibbeha County, following the scientific program.

Z. A. Dorsey, Pres. A. J. Stacy, Sec.
House called to order by President, Dr. Z. A. Dorsey.

Lead in Prayer by Mr. Neal Barfield, Secretary, Y. M. C. A., Starkville.

Reminiscences of Medicine, Dr. J. W. Crumpton, Sturgis.

Common Proctological Considerations, Dr. Thos. Wolford, Columbus. Discussed by Dr. R. B. Cunningham and Dr. V. B. Philpot.

The Abuse of Uterine Curette, Dr. R. D. Kirk, Tupelo. Discussed by Dr. P. M. Williams and Dr. F. B. Long.

"Agranulocytosis," Dr. Henry Rudner, Memphis. Discussed by Dr. J. J. Shea.

Closed Wounds of Abdomen, Dr. A. D. Hurt, Corinth. Discussed by Dr. M. Q. Ewing and Dr. W. H. Anderson.

Book Reviews

CEREBROSPINAL FLUID by Dr. A. Levinson, Third Edition.

A most interesting and complete discourse on the spinal fluid, by an authority on the subject. Beginning with a history of the spinal fluid and its first study the author presents a very clear and complete outline of study. A bit of anatomy is included, just enough to familiarize ourselves with the essential structures of the central nervous system and meninges. The technique and method of obtaining the fluid is very vividly given. The study of the normal fluid and then the abnormal as found in disease gives all necessary details and instructions that one needs to know. A chapter is given to the study of the spinal fluids of infants and children. The last chapter is confined to the intra spinal medication and injection of serum. A very reliable and valuable book.

You will recall with pleasure and profit the paper of Dr. A. Levinson of Chicago, at the recent meeting of the Mid-South. You will certainly want a copy of his book on "Cerebrospinal Fluid" published by the C. V. Mosby Company, of Saint Louis at most reasonable price of \$8.00.

RUSSELL A. HIBBS, published by the Columbia University Press, written by George M. Goodwin. is little gem for your medical biography shelf. It is the story of the life of Russell A. Higgs, a man who pioneered and opened "pathways in that have led to progress in directions hitherto held to be impassable"—in the field of orthopedic surgery. His life began on a farm in Kentucky, where he learned that in hard work there is virtue, and ease to tired limbs in "observing the straightness of the furrows."

He accepted Horace Greeley's admonition to "go West, Young Man," and earned a living for a time practising in Texas. He returned to New York in 1893, still a very young man, and six years later became Surgeon-in-Chief of the New York Orthopedic Hospital, a post he held until his death. His innovations in surgical technique, as a teacher and medical economist, as adviser to young medical students, sportsman, and man and citizen with keep you interested in every page. A characterization by Samuel W. Lambert, and a tribute by Karl Vogel enhance the richness of the little volume. Also the appendices of Hibbs' original papers are important.

Price \$2.00. Columbia University Press.

"This machine age demands hospital service out at the cross roads as well as in the commercial centers.

A MANUAL OF THE COMMON CONTAGIOUS DISEASES by Philip Moen Stimson, Assistant Professor of Clinical Pediatrics, Cornell University Medical College, New York, is a book that every practitioner should certainly have on his desk. We have never before seen such valuable information contained in one small book. It defines contagious and infectious diseases, discusses concisely immunity in its different phases, and prophylaxis in a most practical manner. The author covers the clinical symptoms in fine style of each disease and important points on diagnosis. He tells you how to manage each disease in a general way, in the home and in schools. Complications of each disease are covered fully.

The whole plan of the book is brief, exact, clear, each chapter adequately covering each disease. Price \$4.00. Published by Lea & Febiger, Philadelphia.

In Memoriam*

Today we should feel very happy as we look back over the life of this association, fifty-three years. A medical association of this type that can live and serve this long is entitled to much consideration. But length of life is not enough. Fourteen years ago, this association was born again and with a new vision of service. Since this date we marvel at its steady and rapid stride. Our hearts are filled with admiration and the medical profession of the Mid-South should be very grateful for the "new deal" which has brought to our most friendly, most likeable, and most promising city, the finest four day post graduate course that has yet been offered in the entire country. After the new vision, the association outgrew the Gayoso Hotel, and then the name was considered too small and it was given a bigger one. We are wondering today with the record breaking attendance whether or not this hotel, the pride of the South, will be longer able to house the assembly. For this increased volume of life, for this four day epitomized post graduate course by the authorities in American medicine, we are due gratitude to some one, to several perhaps.

Today, we miss the hearty handshake, the interested look, and the visioned face of the one to whom we owe most perhaps for the professional and social feast that we are enjoying. Dr. Richard C. Bunting. He served as chairman of the program committee during this new era of the association until September 30, 1935, when the master victor of us all called him from action.

He was a native of Wilmington, North Carolina. His parents were natives of this state,

*Read at the Mid-South Post Graduate Medical Assembly by the Memoirs Committee.

his father a Confederate veteran. He attended the public schools there and had private tutoring also. He attended Davidson College and received his medical diploma from the University of Maryland in 1899. He interned at St. Agnes' Hospital in Baltimore for two years, then did general practice for a number of years. He returned to John Hopkins Hospital for a four year course in neurology and psychiatry whereupon he was appointed associate neurologist at John Hopkins. After two years he resigned this work to come to Memphis, 1914 where he remained active in his specialty until his death. He was neurologist on the Staff of St. Joseph's Hospital, Methodist Hospital and Hospital for crippled Children. He was consultant on the staff at Western State Hospital at Bolivar. He was active in helping to secure the new Shelby County Hospital. He was the founder of the Southern Psychiatric Association. He was active in many other medical associations. His greatest activity was for the Mid-South. His vision, his vigilance, his heart and his soul were in it. He was of the Episcopal faith.

Dr. Bunting was married in 1910 to Miss Catherine Copeland of Statesville, N. C. In the passing of Richard C. Bunting, of Memphis, the Mid-South Post Graduate Medical Assembly lost its right arm; organized medicine in the South, an active and influential friend; neurology, an able and popular consultant; and Memphis, a dynamic personality and a progressive citizen. Dr. Bunting was a student, he was a thinker; he was a man of conviction. He was wedded to the Mid-South. He gave of his time freely in its interest. For it he had vision and he had the courage to execute. He believed that the best was not too good for the doctors of the Mid-South. The association owes him a great debt of gratitude. There is a feeling of insecurity in those who lost him as a consultant. The Mid-South will feel his loss, his devotion and his interest. It deeply regrets his going. To Mrs. Bunting, the son, Richard C. Bunting Jr., the sister, Mrs. Walter Toof and the brother, W. S. Bunting, this association offers its deepest sympathy.

(Signed): W. P. LUTTERLOH

W. H. ANDERSON, Chairman

MISS. PHYCICIANS WHO DIED DURING 1935

- Abernathy, E. G., Algoma, 60, Aortic Stenosis and Chronic Nephritis, Sept. 5.
 Ballard, G. C., Little Rock, Ark., 65, Coronary Thrombosis, July 28.
 Buckley, J. Charles, Waveland, 47, Apoplexy, Oct. 27.
 Burdine, Ira D., Amory, 69, Uremia from Chronic Nephritis, Feb. 13.
 Caraway, W. C., Forest, 77, Carcinoma of Stomach, Oct. 16.
 Carpenter, W. A., Cleveland, 50, Lobar Pneumonia, Feb. 26.

- Collins, F. E., Brookhaven, 52, Coronary Thrombosis, April 3.
 Crisler, Julius, Jackson, 59, Duodenal Ulcer Hemorrhages, Sept. 13.
 Daniels, F. E. P., Strayhorn, 90, Senility, Oct. 29.
 Dunlap, James E., Schlater, 46, Acute Dilatation of Heart, March 12.
 Douglas, Thomas O., Eupora, 67, Myocarditis Chronic, April 12.
 Gillespie, J. W., Sherman, 60, Hypertension, Nephritis Uremic Poisoning, Aug. 24.
 Gray, J. W., Clarksdale, 69, Pistol shot wound of head—suicidal, Nov. 7.
 Hall, Thos. D., Saulsbury, Tenn., 56, Chronic Nephritis, July 14.
 Hand, B. F., Waynesboro, 53, Found dead—Probably Acute heart attack, Sept. 25.
 Henderson, Walter F., Jackson, 43, Sudden Collapse during pneumothorax with possibly cerebral embolus, April 18.
 Jackson, M. Winter, Water Valley, 71, Influenza and Pneumonia, March 9.
 Kennedy, J. H., Pinola, 69, Chronic Nephritis, Myocarditis, Oct. 8.
 Krauss, William, Meridian, 74, General Carcinomatosis, Acute cerebral edema, Dec. 21.
 Lamkin, L. H., Natchez, 75, Pyelonephritis, Chronic Myocarditis, Feb. 15.
 Linfield, Edwin H., Alexandria, La., 39, Auto Accident, Dec. —
 Lockhart, James R. Sherard, 63, Carcinoma of Stomach, Oct. 6.
 Marsh, W. M., Ripley, 49, Lobar Pneumonia, Feb. 24.
 McCallum, A., Gulfport, 82, Chronic Myocarditis, Nov. 6.
 McEachern, C. G., Moss Point, 60, Automobile accident, Fracture of skull, April 25.
 McLain, John H., Jackson, 47, Myocarditis-Coronary, Sclerosis with Angina, June 6.
 McRae, W. W., Corinth, 70, Uremia and Myocarditis, May 5.
 Overstreet, P. C., DeKalb, 52, Died suddenly, cause unknown, April 12.
 Pearce, L. S., Falkner, 88, Chronic Nephritis, Sept. 18.
 Pickett, John C., Caledonia, 57, Angina Pectoris, July 29.
 Poole, Sam, Leakesville, 78, Senility, April 13.
 Potter, W. D., Clinton, 65, Cardio Renal Disease with Uremia, May 11.
 Powell, Wm. A., Nesbitt, 72, Automobile accident, Jan. 5.
 Price, J. W., Booneville, 62, Septic Thrombosis and pyemia, March 25.
 Rape, J. N., Moss Point, 76, Angina Pectoris, Feb. 4.
 Rees, S. E., Purvis, 64, Carcinoma of Mediastinum, July 2.
 Rhodes, W. F., Capleville, Tenn., 62, Chronic Nephritis, Sept. 25.
 Richardson, J. R., Indianola, 36, Acute Alcoholism, Acute dilatation of heart, July 11.
 Ross, T. E. Sr., Hattiesburg, 71, Coronary Thrombosis, Cystitis Acute, Sept. 29.
 Sherrod, J. P., Port Gibson, 69, Chronic Myocarditis, Hypertension and Congestive failure, Aug. 23.
 Slaughter, James H., Kilgore, Texas, 48, Angina Pectoris, March 17.
 Spencer, W. C., Verona, 81, Hypostatic Pneumonia, Arteriosclerosis, May 20.
 Stone, D. A., Shannon, 89, Chronic Myocarditis, Acute Nephritis, Feb. 24.
 Teasdale, C. H., Crystal Springs, 90, Burned to death, Jan. 21.
 Weathersby, W. C., Jonestown, 74, Angina Pectoris, Feb. 4.

Periodic Health Examinations— Their Failure and Remedy*

D. G. RAFFERTY, M.D.
Pass Christian, Miss.

Seventy-four years have elapsed since Dr. Horace Dobell of London first advocated periodic health examination. His rather quaintly written essay would hold good today and might be considered one of the pillars on which modern preventive medicine was to be built.

Dr. Dobell's paper created hardly a ripple of interest and was soon forgotten in the welter of medical progress that was about to begin towards the last of the century.

Next we hear of periodic health examinations in 1900. Dr. Frank Gould, of Philadelphia, Pa., independently recommended to the profession that some such check on supposedly healthy persons be made in order to recognize chronic disease in its incipency. His ideas met the same fate as Dr. Dobell's and a lapse of some thirteen years intervened before serious consideration was given to these examinations.

In 1913 a commercial corporation was founded in New York City and capitalized at \$150,000. It was called the Life Extension Institute. Laymen were at the head of this organization. The purpose was to extend periodic health examinations to the public. Licensed physicians conducted the examinations for a fee of from \$15.00 to \$50.00 depending on the case. If the examination required a specialist and examinee could stand the extra cost his opinion was sought. The Institute would not treat ailments nor tell the examinee what was found but referred him to his own physician. They advertised extensively at first and as a result their business was well established on a paying basis. The American Medical Association neither approved nor disapproved of the Institute, in fact, it remained silent. A few years later the Association advocated periodic health examinations despite the fact that a commercial company was dangerously skirting the medical practice acts. The American Medical Association then issued forms with the idea that individuals would seek their own physician for these periodic examinations. Of these forms consideration will be given later.

During the next 22 years the Life Extension Institute conducted some 73,500 plus examinations per year. A branch was opened in Chicago to meet with the same success. They then increased their capital stock to \$2,000,000 and

everything appeared well on the life extension front.

Recently it leaked out that a number of the larger insurance companies interested in keeping many of their large policy holders alive were sending them to the Institute for periodic health examinations at their expense. A group of New York physicians decided that the Institute instead of skirting medical practice acts as they had so successfully done in the past, was now violating them. Through the attorney general suit has been brought to dissolve this organization. It seems that telling an individual he is not healthy is tantamount to telling him he is sick. That is a medical diagnosis which corporations are forbidden to make.

I have referred previously to the forms issued by the American Medical Association known as Form A and Form B for Periodic Health Examinations. They were issued to guide the general practitioner in his proposed inventory of the examinee's physical condition. Both forms are comprehensive, in fact so comprehensive that none of us would care to fill them honestly on account of the time required for the examination and the cost. On six occasions during the last eight years, examinees have presented themselves at my office ready for their examinations but first desired to know the cost. My reply was a minimum of \$25.00. Two of six were examined while the other four decided to wait until some future date. Forms A and B, I am criticizing not from the institute's nor a clinic's standpoint but from the average physician's desire to render the same service and make a reasonable profit. In my opinion it can't be done and the American Medical Association gave the coup de grace to these examinations for practitioners when these forms were issued.

Preventive medicine in the last 25 to 30 years has made marvelous strides in the prevention and control of acute infection. Our health officers have been ever vigilant in stamping out these major maladies in their beginning. The public knows this and in most cases are happy and willing to co-operate.

The American people are decidedly health conscious. This is evidenced by health articles in the newspapers, radio talks and the 73,500 plus examinations per year for 22 years that the Life Extension Institute has accounted for. The public is demanding that the medical profession help them with the chronic diseases in the same able manner that the acute infectious diseases have been handled.

I feel that it would be presumptuous on my part to run through the gamut of chronic disease conditions that could be arrested if not cured in their early stages. Intelligent and early recognition is the only hope for the individual and that can be secured only by peri-

*Read before the section on Hygiene and Public Health at the Sixty-Eighth Annual Session of the Mississippi State Medical Association, Biloxi, May 15, 1935.

odic health examinations.

Alarming conditions face the profession today as never before in the matter of chronic illness. Recently the Metropolitan Life Insurance Company made a survey of heart disease in the United States. The results of this survey were amazing. This company states that 3½ per cent of the total population suffers with some form of Cardiopathy. Morbidity and mortality tables are not constant. Here is an example of change. Some thirty years ago Osler coined a phrase about pneumonia which no longer holds good. Our ideas concerning valvular heart disease have undergone revision as to their seriousness and compatibility with life while other degenerative arterial and heart changes are yearly increasing the death rate. How can we account for this rapid increase of heart disease? It is indeed difficult.

Acute rheumatism and other acute infections especially in the young used to account for many of our heart cripples. In recent years it has become more difficult to trace cardiopathies to these acute diseases in the young. Surely the high pressure under which we Americans are supposed to live does not explain this strange phenomenon. The chances are that subtler infections such as chronic tonsillitis, chronic recurring rhinitis, otitis media and carious teeth are playing as devastating roles as the older more serious infections. These lesser infections do not get either the consideration nor the treatment that they merit. From a myocardial or circulatory standpoint they can do as much damage as the major infections. Granted that a heart is damaged no matter what the cause, something should be done. Too many times nothing is done until irreparable myocardial changes have taken place. A simple examination that is timely and performed by the average physician may add years to the examinee's life.

I have alluded to valvular heart disease in connection with our revised ideas. Thirty years ago valvular defects were looked upon as more serious than they are today. Insurance companies looked askance at them and refused many insurable applicants that they would gladly take today.

The question arises what have we to offer the heart patient? A cure, no, but early recognition plus intelligent treatment may add years of comfort to his life. This, of course, does not apply to coronary disease, that most serious of heart affections. Our ideas on essential hypertension are being revised. High blood pressures are compatible with a reasonably long life providing the arterial degeneration is not rapid.

In 1933 the death rate for malignancy in the United States was 102.2 per hundred thousand.

This means that 128,475 persons died of cancer in this period. We have been teaching the public for years to seek advice early on the discovery of a small lump in the breast or abnormal bleeding around or after the menopause not to mention the so called cold sores on the lip that will not heal. Despite all our efforts we are still confronted with the above mentioned appalling death rate from cancer. Much is left for us to do before we can appreciably reduce this mortality. Concerning pulmonary tuberculosis it avails us little to make a diagnosis after cavitation has occurred and the same applies to lues to detect it after cerebral symptoms have manifested themselves. And so it goes. Thousands of our population are sacrificed yearly because early recognition of disease has been deferred or neglected.

For years the Army and Navy have held periodic health examinations. The unfit are weeded out for the good of the service. Large corporations are requiring periodic health examinations. Many of the large corporations in this country require periodic health examinations of their employees. Those found unfit must have their disabilities corrected or lose their employment. Big business is demanding a healthy personnel.

The question has been asked me: who is the most competent person to make health examinations? Consensus of opinion of physicians throughout the country who are interested in this question is that the family physician is the most competent person. He is qualified because he is more familiar with the examinee's family history, his work and his mode of living. The family physician is in better position to evaluate his patients' complaints and symptoms.

In the near future periodic health examinations will be firmly established. It will require about the same amount of the physician's time as an insurance examination. It requires no more special equipment than we all have in our offices today. Like other preventive health measures it may have gotten an unfortunate beginning but future teaching will quickly offset this. A few months of radio talks should be sufficient to bring many to our offices for examinations.

Before we general practitioners can accomplish these examinations radical changes must be made in the mode of conducting them. It occurs to me that the habit of bringing the laity to us could be further accomplished if we could arrive at a more moderate fee. Once the habit of periodic health examinations is firmly established and the examinee is convinced that a worth while service has been performed for him reasonable fees will be forthcoming.

CONCLUSIONS

1. A health conscious American public is demanding as much consideration in the alleviation of chronic disease as has been accomplished with the acute infectious diseases.
2. Periodic health examinations offer the only means to combat these diseases in their incipency.
3. The general practitioner must have simpler examination forms than the ones issued by the American Medical Association.
4. Commercial organizations attempting to carry on this work should be discouraged. The profession today needs every available source of revenue.

DISCUSSIONS

Dr. W. W. Crawford (Hattiesburg): The doctor has brought a very important subject to your attention this morning. As he suggested it is not a new one, but it is a question that has been gradually evolving in the minds and hearts and consciences of both the professional and lay public for quite a period of years. I happen to hold in my hand at this moment an extract from a paper that I read before this Association in 1922 in the discussion of the problem cancer. I said:

"What can be done with reference to this matter? It may seem utopian but we ought to and I believe will, reach the period in less than five years when every adult in our state will be given a complete examination and have it repeated, biennially. Such an examination would not only reveal actual and potential cancer but many other diseases that could be either arrested or so modified by prompt attention that the life expectancy of our population would be materially increased. After all such a suggestion is not utopian. Are we not doing that very thing in many of our counties with reference to the school children through the agency of health units? I submit that this health unit work will ultimately translate itself into this large responsibility and that the machinery of our State Board of Health, with the cooperation of our State Medical Association, will at no distant date launch a program that will reach our entire population. It may be that we are not quite ready for such a comprehensive program, but we can contemplate it without being accused of having delusions of grandeur."

I quote from this paper of 13 years ago, as an evidence of the fact that we at that period in Mississippi were turning our attention to this question of periodic health examinations. You recall that the American Medical Association just a year prior to this, probably in 1921 or 1922, began its campaign for periodic health examinations. But as I suggested it is not an utopian thing. We are beginning throughout the whole country, to appreciate

the fact that if we want to live longer and be happier that we must look toward some of those invisible signs in our lives that cut us down all unexpectedly. It is a tragic thing as we look through the necrology column of the Journal of the American Medical Association every week to see the number of doctors that are dying over the country largely from some form of circulatory disturbance, and while we, of course, realize that the emotional element that enters into the doctor's life does affect his circulation, yet we, as doctors, could do a great deal toward conserving ourselves for ourselves and families and for the public if we would just occasionally be investigated. You all know the story, those who attend Tulane University, how it was that Dr. Bemis, at one time the outstanding professor of medicine in Tulane, was—in those days laboratory facilities were crude—having the boys test their urine to determine whether or not the urine contained any pathological elements, and then he provided a specimen of his own urine for examination, and you recall that he found that this specimen of urine was almost completely saturated with albumen. The doctor was greatly surprised, of course, to recognize that he had an advanced case of Bright's disease from which he died a year or two later.

I mention that as an illustration of the fact that many times we, as doctors, go merrily along assuming that because we eat three square meals a day and sleep a fair amount that we are equal to almost anything that might be thrust upon us. I want to emphasize, if I may, something in connection with the very able paper that was presented before this Association last night. Dr. Bryan's paper was a very creditable offering. He blew through both hot and cold. He was both pessimistic and optimistic in his suggestions, and if I heard him right, I fear that he failed to recognize the importance of dealing with precancerous problems and that is the thing we are talking about this morning—the question of preventive medicine and prolongation of human life through our interpretation of people's problems. It has been said by more than one of our best authorities, and it is contended I think just, that if we would investigate the things in connection with our patients that belong to what we call the precancerous growth that it would be entirely possible to reduce the appalling death rate of more than 120,000 per year from cancer to one-half that amount. Of course nobody knows what causes cancer, but it is a fact today that the outstanding manifestation that translates itself into cancer is chronic irritation. Whether that is based upon some embryonal cells that were brought down from the embryo in utero or whether it is the result of chronic irritation

that finally causes them to change their form, we do not know. But we do know that in a large percentage of the cases of cancer, among both women and men, a chronic form of irritation is the predominant factor. Therefore, we can not do better than correct this in some sort of measure. In other words stop having your chronic irritation. Stop burning your lip with your pipe, correct the irritation from discharges incident to the lives of our women, correct the slight irritations and ulcerations of the cervix, so many of which will eventuate into cancer. There are so many things that we can do and should do, and we can only find out when we have educated the public to the point that they come to us and say, "Doctor, I feel all right, I am not sick, but I appreciate the old adage that an ounce of prevention is worth a pound of cure, and it is worth something to me to have you check me over and say 'you are quite all right'."

A great number of business men are recognizing that. I am sure we all examine men every day who come to us not because they are sick, but because they want to stay well, and there is no question but what if we preach this gospel to the public the time will come when people will be health examination conscious and we will have a very material reduction in the things that Dr. Rafferty has so ably pointed out to you in his paper.

Dr. W. H. Frizell (Brookhaven): Dr. Rafferty brought it out, and it was further impressed by Dr. Crawford, the necessity of making these examinations, and while each was speaking to that question it dawned upon me that we, as physicians, who should know more and should be governed more by these conclusions, follow them least. Dr. Crawford referred to the necrology column of the Journal of the American Medical Association. I did not know that others, like myself, had a weakness for following those up and watching the number of medical men who pass out from circulatory disease, heart disease of some type or cardiovascular disease as so often found in those columns. We each have intimate friends to go, I too had one to pass out the other day. He worked up to night, took sick at bed time and was dead the next evening of a coronary sclerosis. He had been examined by a competent man, advised to go home and quit work for a year, would not let his wife know it, worked right in his office all day, smoking, eating and drinking—no, he didn't drink, but so many do, went home and was dead next morning. You know you have these things and so often by mere accident we come upon these things, and if you don't know how you feel about it, just stumble up on your own case. Pardon me for getting personal, but some 14 years ago I had difficulty in obtaining from my surgical instrument house a urinometer with a per-

manent scale on it. I would get one and send it back and it would be returned, and I would find such a low specific gravity that I thought I would test it. If there had been a hole in the floor I would have gone through it. The urine was loaded with albumen. I had just passed a life insurance examination just before that. I had lost a few pounds, was not sick, and for 10 or 12 years following that it kept on from bad to worse until I found my own individuality and could eat things that were absolutely prohibited for me to eat and other things I was directed to eat, I could not eat at all, and each of those things are individual. We pay no attention to admonition. We medical men are the most inattentive men on earth, or we think that we are just a little bit different from the others and will get by by chance. We are all in the same boat. Like the rich man of old, if we could just come back and tell our brothers, but there is no comeback.

The State Board of Health has encouraged the physicians to make these periodic examinations. We do not make them, and I dare say that many of you, and you will admit it to yourself, have had some of your clintele to suggest that they want to come up when you have time and when you can go over them, and you never call them. We are just too negligent. We may as well indict ourselves and clean out our house and then we can talk about the lay public better. You can not expect them to follow when we do not do it ourselves and I do hope that Dr. Rafferty's paper will at least give us a text for a sermon we can go home and get up ourselves.

Dr. F. M. Smith (Vicksburg): We have heard several times during the session here this week, reference made to longevity reference to increasing the average span of life. An observation was made a few years ago that infant mortality had been greatly reduced, thus increasing the average span of life, but for men and women who had come to the middle years of life, the death rate was practically the same. A recent study upon longevity or the span of life has shown that there has been an increase in years to that group above middle life which is most encouraging. Some one has said that an unfailing recipe for longevity or long life, (and many men have tried it) is to take a fairly intelligent individual with a chronic curable or arrestable disease, advise him of his ailment, and how he in part if not entirely may be able to overcome or counteract same, let him begin his fight, and he lives on, runs on, like Tennyson's brook, almost forever and forever. So then we can see if this is in part true, how necessary it is for us to take an inventory of ourselves, and we who have imposed upon us—the duties of public health officials—the sentinel in the tower that must watch and

warn, we should feel the responsibility is doubly encumbent upon us and we should use every means of education and teaching to instruct the laity in the importance of seeing competent men and having a thorough physical examination made yearly. It is worth while regardless of the desirability or undesirability of the FORM this record is kept on. By this means we may obtain an unfailing recipe that when followed prolongs life—our dearest possession.

Dr. R. C. Smith (Drew): I was very interested in the paper presented this morning, and want to relate just a little experience that I had with some large life insurance companies, with policy holders who were carrying large amounts of life insurance. They called upon me to do this work for them. I did it and was paid for the service that I rendered. I also carried and still do carry some insurance. I am cautioning you that it will be more beneficial to you and to your patients and your clientele if you will do this without being employed by some large corporation. There was a little unpleasantness that came up in some of the terminations of my having examined them and report made and later wanting to renew some policies or take new policies, where I had paid-up insurance. There was a little unpleasantness—I believe information in some way was given detrimental to me. I am cautioning you on the part of a physician to a physician that you maintain your relation as physician to the people you deal with and not as an employee rendering a service to others.

Dr. Daniel J. Williams (Gulfport): I enjoyed the doctor's paper, because it had some practical ideas. I want to just ask the boys here who have had a periodic examination for the last twelve months, and I will include the ladies too, to stand up, just for one instant. Now why—just why? This in the health section, among the doctors of Mississippi, where we have been preaching periodic examinations for 20 years. Now why these few examinations of those of you represented in the health section?

There are two reasons and the doctor has very wisely directed your attention to them. In the first place the forms that have been submitted are unsuited to the mass of the people. You are a long, long way above the average, and if as few of you have had these examinations throughout the country in the same proportion as you are represented here, there must be a reason for it, a practical reason. Those of us who made examinations for life insurance companies forty years ago remember that we had a six-page closely printed form. The life insurance company of today, if they want to take a risk with the average individual who is able to carry insurance,

does not burden the examiner with that kind of a form. It is short today. If the greatest industries of this country can arrive at safe conclusions from a less formidable arrangement, why can't we, and why can't the public? There will never be a popular acceptance of periodic health examinations as long as we have these forms made in corporation offices—as long as we have these forms made in swivel chairs, among people who have not worked with the common herd. That is where our troubles are. I wish I had time to say more about this. In the last twenty days I have examined as health officer more than 200 individuals who had to have health certificates to work in the canning or fruit processing places. In the last twenty years, I have examined—I don't know—more than 20,000 children. Those examinations were not ideal, neither were the examinations that were made in my office recently ideal, but they were examinations that were intended for a practical purpose. Among those I examined I found people who needed a more careful examination. I did not make an analysis of the urine or various secretions of the stomach. I could not do it. It was not practical. I did go over the chest and I found some with heart trouble, some with lung trouble, and I did not always attempt to tell them what it was but I directed them to go to their family physician and he is the fellow to do this work if we are to get practical results along this line.

Dr. Rafferty (closing): I do not believe that I have much more to add to the generous discussion of this question except to emphasize the impossibility of the general practitioner conforming to Forms A and B as issued by the American Medical Association.

Forms A and B honestly and conscientiously filled out constitute an ordeal both for physician and examinee. The ordinary life insurance examination performed in our offices daily consumes from 30 to 35 minutes. It can hardly be called an ordeal.

In order to popularize periodic health examinations begin with a form that will neither tire the person examined nor consume so much of the physician's time that his profit is gone.

Selective Anaesthesia*

G. W. EUBANKS, M.D.
Greenville, Miss.

Anaesthesia is and should be classed as the running mate of surgery. The advances made in surgery have not always been paralleled by the methods of anaesthesia. I believe that

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surgeons as a whole now realize that further progress in safe surgery will be handicapped unless the anaesthesia is safe. In the past few years we have come to know so many methods of anaesthesia that the big problem is to choose the one most suitable to the conditions. In the choice of an anaesthetic the thought of most importance is the safeguarding and protection of the patient, to which all else is secondary. In this regard we must consider the condition of the patient, the temperament, whether calm and controlled or a highly nervous person, the contra-indications of the anaesthetic agent and the complications of the case. A correct diagnosis is the keynote to the selection of the proper anaesthetic, in this connection one must consider the amount of relaxation necessary for the proper surgical procedure. Does one need anaesthesia or analgesia, are relaxation and quiet breathing necessary? In many cases more harm is done the patient by straining and rigidity, necessitating the excessive use of retraction than would have been caused by an anaesthetic agent which would have given complete relaxation. There are too many men today who can operate but who are not and never will be surgeons. They are skilled to a certain point, the rest is left to luck. If the patient will consent they will operate with no other consideration of conditions. Grave surgical risks often come to grief because of an unwise choice of anaesthesia. I believe that this choice should be studied with as much care as is given to the pathology.

Almost as important as the choice of anaesthesia is the preoperative medication. With the patient the fear of anaesthesia is often greater than the fear of the operation or its outcome. No doubt more patients go into the operation praying for divine guidance for the hand that holds the mask than those for the hand that wields the scalpel. We have done little in the past to allay this fear but with the advent of barbituric acid and its derivatives into the anaesthetic field we have entered a new era. It is a joy to both the patient and the surgeon when a case properly prepared by premedication goes to the operating room without a trace of fear, goes to sleep quietly and wakes with no memory of ever having been operated upon. To secure this state we insure the patient a restful night of sleep by giving three grains of sodium amytal at eight o'clock the night before the operation. On the morning of the operation, two hours before that set for the operative procedure, we give six grains of sodium amytal, orally, again one hour before operating we give three grains of the same medicine. This is supplemented by one-sixth to one-fourth grain of morphine with 1/150 grain of atrophine one-half hour before the operation. This sends the patient to the

operating room in a completely rested state, almost always asleep and with no future memory of having left his own room. A patient with such preparation requires less of any anaesthetic agent chosen and thus eliminates post-operative complications arising from an excessive amount of any drug. This preliminary medication prevents respiratory spasm and muscular activity during the subsequent induction and thus affords an important safeguard against any cardiac embarrassment which might be brought on by excessive muscular exertion during the first stage of anaesthesia. It also makes for a quiet awakening and leads to a smooth post-operative convalescence.

In the choice of anaesthesia, I shall take up only those which are most widely used, that is, inhalation, spinal and local or conduction anaesthesias. In the inhalation group, without a doubt, drop ether still holds first place. This is due to a number of reasons. The apparent simplicity of this open method with a mask and a can of ether being the only equipment necessary for its administration, makes it the most universally used, especially in smaller hospitals. Ether has been a wonderful boon to humanity and still is but it is primarily the surgeon's anaesthesia and not the patient's. It gives to the surgeon the extreme relaxation that he likes but the patient bears the brunt of the after effects. Ether has a wide margin of safety. With it immediate untoward results are seldom seen but remote untoward effects may result more frequently. If we are fair with ourselves more deaths could be attributed to its administration, indirectly, than we care to admit. Nausea, vomiting, gaseous distention, long abstinence from fluid intake, dehydration, acidosis, slight pulmonary complications, inability to void, are all small blows to the vital center, but in numbers and continuously, they soon get in their telling effects in grave surgical cases. In the administration of ether, if the different stages of narcosis are observed and the depths of anaesthesia varied to suit the requirements of the operation, much can be done in preserving the vitality of the patient. Anaesthesia deep enough for intra-abdominal operations is not necessary for other cases where the loss of consciousness is all that is desired. The use of ether in olive oil as a rectal injection is an important adjunct where it is not advisable to use local and work must be done on the mouth or throat. With this anaesthesia the patient goes through the same stages as in inhalation anaesthesia and must have the same preparation. However, after the drug is given it is not possible to stop the anaesthesia immediately and it is therefore very important that the exact amount per body weight should be given. Ether is always contraindicated in active pulmonary diseases, severe hypertension, diabetes and severe anaes-

mia. It is indicated in diminished cardiac reserve.

The use of non-irritant gases with oxygen has almost done away with the dread of going to sleep. After proper premedication the ease and rapidity with which the patient loses consciousness, the little or no nausea on awakening have so removed the fear of general anaesthesia that people more readily submit to operative measures. Of these gases nitrous oxide and ethylene are those most commonly used. Nitrous oxide is not inflammable, it is pleasant, not irritating to the lungs; where relaxation is not required it is an ideal anaesthetic. The breathing is not quiet, premedication is more essential than with other gases, the reflexes return quickly and there are no immediate or remote untoward effects. I may safely be used in the presence of the actual cautery.

With sodium amytal in advance, ethylene with oxygen makes a smooth, deep and satisfactory anaesthesia. The ease of induction and the reduction or entire absence of post-anaesthetic nausea, make it most superior to the drop ether method. Where greater relaxation is desired than can be obtained with this gas the addition of a small amount of ether can be made at any time. The special effectiveness of relatively small amounts of ether, when thus used, is remarkable and when used early in the operation for relaxation it is so readily eliminated that the patient never realizes that ether has been used. The patient is usually able to talk before reaching his bed and vomiting seldom occurs after the patient is conscious. With ethylene there is greater relaxation than with nitrous oxide, the margin of safety is slightly larger and twice as much oxygen may be used thus keeping the patient with a good color. Ethylene should not be used in the presence of the actual cautery and never around any open flame.

Ethyl chloride as an inhalation agent has such a small margin of safety that its use is rarely justified. Inhalation anaesthesia of any kind is contra-indicated in any pyogenic infection of the mouth as there is always danger of aspiration of some of the infectious material thus setting up a lung abscess or other serious pulmonary complications. Neither should inhalation anaesthesia of any kind be used when the stomach is full as is so often the case in accident or emergency cases.

Spinal anaesthesia has staged a comeback. It had to overcome many obstacles but it is now established as firmly as any other form of accepted anaesthesia. The advent of spinal anaesthesia into the daily routine of the operating room is one of the greatest boons to both the patient and the surgeon since the advent of aseptic surgery. It is an ideal anaesthetic and in selected cases its advantages are many. In no other way can so extensive

an anaesthesia be produced with so small amount of a drug. It is effective in all work below the diaphragm, it gives the surgeon the marvelously soft and quiet abdomen, the intestines are collapsed with no need of packs, often no retractors are needed, there is little or no venous oozing, or peripheral bleeding thus eliminating the trauma of excessive sponging, all this being a factor in preventing adhesions and intestinal obstruction, nausea and vomiting. Fluids may be given up to the time of operation and much sooner after the procedure unless contraindicated by the condition. It is not wise for the surgeon to give the spinal anaesthetic and then turn the patient over to an inexperienced person while he goes about his work. If an emergency arises the surgeon and his assistant cannot stop; there must be some one who can meet the emergency and act quickly. The aim of the anaesthetist during this period is to make the patient comfortable and to watch carefully the blood pressure, pulse, respiration and general condition. The blood pressure is the most accurate guide to the patient's reaction to the drug. With the preoperative medication described above the patient often sleeps through the entire procedure. This is encouraged; cool sponges to the face and neck will help. If the patient wishes, crushed ice or small sips of water are given unless contraindicated. If nausea occurs due to tension on the mesentery or viscera it can almost always be controlled with ice to the throat, deep breathing or, in severe cases, by the inhalation of 10 per cent carbon dioxide in 90 per cent oxygen. When, due to a prolonged operation, the patient becomes restless, additional morphine may be given without apprehension. If there is a severe drop in blood pressure in spite of the prophylactic dose of ephedrine more ephedrine may be given until the blood pressure returns to a safe level. Although each case should receive individual consideration the especial indications for spinal anaesthesia are impairments of the lungs, kidneys or liver, diabetes mellitus and pulmonary tuberculosis. It should not be used in severe hypertension, extreme hypotension, in shock due to hemorrhage, cerebro-spinal pathology, infections of the lumbosacral region, pathological conditions of the spinal column nor sepsis with positive blood culture. It should never be used in cases where abdominal breathing is necessary for the patient to live as in large tumors or collections of fluid in the chest. In unusually prolonged operations where the time limit of the drug, forty-five minutes to one hour, has been exceeded, gas anaesthesia may be used for the closing operative procedure with no deleterious effects.

The advantages of local or conduction anaesthesia are many, and it is undoubtedly the

safest form of anaesthesia that we possess. Its value in minor surgery is unequaled. Local anaesthesia requires patience, gentleness and anatomical knowledge. Its technique has been so simplified and its use is so effective that there is rarely ever an excuse for using a general anaesthetic for minor surgery. With the advance of the mechanical age the every day practitioner more and more often is called on to do work that once was considered to be only the field of the experienced surgeon. For such cases local anaesthesia holds distinct advantages. The operator himself may administer it, experience and cumbersome apparatus is not necessary, patients do not have to be prepared for the anaesthetic, it is safer than any general anaesthesia, for fractures and dislocations the relaxation is complete, there are no untoward after effects and one may have the cooperation of the patient at all times. Hospitalization is shortened or the patient may go home at once. There are very few contraindications to its use. Young children or the mentally unbalanced are poor subjects on account of lack of cooperation with the surgeon. Highly nervous patients or the hysterical can usually be controlled by the preoperative morphine.

Procaine still seems to be the preparation of choice for this form of anaesthesia. Local or conduction anaesthesia is of especial advantage in work on the brain or in thyroid patients who are highly toxic and where general anaesthesia is not advisable. In any operative procedure or grave surgical risks where both general and spinal anaesthesia are contraindicated it is well to consider the use of local anaesthesia.

In this brief resume of the anaesthetic agents most commonly used my main thought has been to stress the fact that there is no anaesthetic that can be used in every case; that no patient can be classed by any general rule; that every patient and every condition must be thoroughly studied as an individual case and then, and then only, can the choice of anaesthetic be determined.

DISCUSSIONS

Dr. Archie Gordin (Jackson): I got up, not so much to discuss anaesthesia. I think the doctor has covered the subject well. He has given you certain indications and contraindications with which we as a whole agree, but I got up to defend an anaesthesia which has been discredited more by its name than any thing else—spinal anaesthesia.

Spinal anaesthesia if it were called by some other name except spinal would not have the terrifying effect on the patient who does not want something injected into the spine. I think most of our practitioners who condemn spinal anaesthesia do it because of lack of ex-

perience. I think most of the surgeons who condemn it do so because they could not use spinal anaesthesia well. I became interested in this five years ago following it up. There is a little knack or art to it. I believe I could do it with my eyes shut, simply by the sense to touch, going through the membranes. I believe the men who condemn it are usually the ones who can't use it well and are men who use it only in desperate cases who would probably die anyway and the blame falls on the anaesthesia.

Recently I had a case of pulmonary embolus ten days after an operation. The patient died walking out to my car to go with me to my office. I have heard it blamed on spinal anaesthesia. In my twenty years of the practice of medicine I have had five similar deaths who had ether anaesthesia. Then tendency of the men who do not like spinal anaesthesia is to blame their fatalities on the anaesthesia.

The technique is rather important. For instance, we all know to go in just below the spinous process of the vertebra above, go straight into the canal. If a little blood gets into the tube discard that and make another puncture. When clear fluid appears you know you are in the spinal canal.

It is important in doing appendectomies and certain other operations to turn the patient on the right side as the anaesthetic will take effect first on the side down. I have been asked by several doctors for whom I have done surgery if spinal anaesthesia can be repeated. In answer to this I will say I have given for one of the surgeons doing cystoscopic work as many as from ten to twelve in a year on the same patient. I use the anaesthesia for its safeness and I see no reason for the inexperienced to condemn it as unsafe.

Another thing is the complete relaxation of the patient by using the anaesthesia. I find that the best doses of spinal anaesthesia would be 150 mg. average dose. This would give about 1 hour relaxation and is the best dose I have found. Nausea is minimized with it and immediate complication on the table as you know is naught. Occasionally we get respiratory distress; this can be overcome. I had this experience with one case, a very young boy on which we used artificial respiration.

I believe the site—the field of spinal anaesthesia—should be localized a little less than the doctor states, as below the diaphragm. It is my belief that the best results are obtained below the umbilicus, operating on the extremities or the lower abdomen. In cases where the blood pressure falls more markedly we usually get better results. However, I may say I never operate on a case in emergency without another doctor being present to administer whatever this patient might need. I do not believe it would be important, I say this guard-

edly, to take the blood pressure if you know you have a normal patient with a normal blood pressure. You can watch the patient and tell when the blood pressure drops simply by the respiration, vomiting and other symptoms we see on the table.

I have found it very seldom necessary to use adrenalin or ephedrin. I think better results come by mechanical stimulation. Later complications in spinal anaesthesia are rare. We hear of spinal meningitis but we hear also of peritonitis without spinal anaesthesia. This is simply a fault in the technique. I have had some patients who had headaches for a week, some severe pain in the abdomen, some with pain in the shoulder. These are rare. In 1000 cases the complications following spinal anaesthesia have been minimized. It has been my observation that my patients have less gas in spinal anaesthesia but we still use the nasal tube and keep the stomach washed out the first twenty-four hours.

As to local and spinal anaesthesia the doctor mentioned especially hernia operations. I think a hernia operation is done better under spinal anaesthesia than any other. It is generally believed that hernia operations have a tendency to infection and to sloughing and novocain used locally would certainly have a tendency to cause either of these conditions. We got more infections, sloughing and more recurrences of hernias when we used to use local anaesthesia twenty years ago than we do with spinal anaesthesias of today.

I wish to take this opportunity to express my appreciation to the doctor and to say to all of you—be more charitable toward spinal anaesthesia and do not condemn it unless you are real certain that you know that it is at fault.

Dr. Stanley A. Hill (Corinth): Good results in surgical cases depend to a large extent for their success upon the proper selection of the anaesthetic. It may be considered one of the processing solutions in developing the post-operative picture. For, just as in X-ray or photography, no matter how carefully the technical factors are carried out in making the exposure, one blunder may spoil the whole picture. No matter how carefully the technique in the operation, if the anaesthetic goes wrong the whole case is liable to be blown up.

I have had the painful experience of losing a patient with bilateral pulmonary edema 48 hours after operation. This patient was a negress, 24 years old, who had a chronic osteomyelitis of the right ulna from a gunshot wound. The operation lasted thirty minutes and was a sequestrectomy, together with exploration of the bullet. This patient received ether as the anaesthetizing agent. Routine pre-operative physical and laboratory examinations graded this case as a good operative risk. The necropsy diagnosis was chronic os-

teomyelitis, atrophy of the viscera due to malnutrition and bi-lateral pulmonary edema. Probably we should have detected the atrophy and have had the patient in better condition for operation, but still I believe this case received too much anaesthesia. This is the type of case that Dr. Eubanks mentioned that does not need a profound anaesthesia, but only the loss of consciousness. I mention this case to bring out two points, first that pulmonary complications of severe type can result from operation upon the extremities, and second, to be careful not to use too much anaesthetic, unless you really need it for the particular operative procedure.

Chloroform should not be left out as an anaesthetizing agent. I would like to mention its use in obstetrics where it is particularly adapted to use in the home where an anaesthetist is not available. Chloroform used in the Reynold's inhaler is ideal. You remember this inhaler is a heavy metal instrument, and when the patient receives complete anaesthesia the weight of it causes it to be dropped thus insuring complete safety. It is almost fool proof used this way. Chloroform is also suitable in many cases where only short anaesthesia is wanted. It is suitable for reduction of many dislocations and fractures. It may be used for paracentesis of the tympanum. Chloroform, of course, is quite toxic to the heart, more so than the other anaesthetizing agents, and heart damage is a contraindication to its use. I mentioned its use in middle ear disease a moment ago. Many of these cases will be in children. Children neither tolerate chloroform nor gas very well, and it will be best to use drop ether with them.

Novocain has a very wide use now since it can be used as a spinal as well as a local anaesthetic. It can be used in reduction of fractures. I do not wholly agree with Dr. Eubanks in stating that a full stomach is a contraindication to a general anaesthetic. These emergency cases often will come in with full stomachs, for instance, fractures, and the best time that you have to secure the nearest to a perfect reduction is when you first see the case, and if you wait you may lose this chance. I often use a general anaesthetic in these cases when they first come in. If novocain is not desirable it will be better to empty the stomach with a pump than to put many of them off. Some of these will be compound wounds without a fracture, and the danger of infection increases as time goes on. Novocain can be used often when the other anaesthetics are not suitable at all. If you are afraid to use inhalation anaesthesia with your patient try novocain. You can pick a splinter out of the ball of the foot of a six year old patient with it. You can use it as a spinal and do a cystotomy on an elderly gentleman who is about

two-thirds worn out. You can use it as a caudal on a lady who objects to a general anaesthetic and do a hemorrhoidectomy. I would like to add that use of local anaesthesia will often be aided by the help of some one to detract the patient's attention from the operative field. You can use local and do a hernia repair on a quite nervous patient with a damaged heart. In addition to having your anaesthetist watch your patient's reaction to the drug, have an attractive nurse sit at the head of the table. She may hold the patient's hand and offer such distracting pleasantries as cigarettes and sips of Coca Cola. By playing the "park-bench role" she can approach a state of hypnotism which I think is worth a great deal.

It has been a pleasure to hear this instructive paper. Thank you.

Dr. V. B. Philpot (Houston): I appreciate very much the paper given us by Dr. Eubanks. We all have our hobbies in reference to anaesthetics. I shall not advocate nor condemn spinal anaesthesia because I know very little about it. Personally I had rather advocate the anaesthetic that statistics have proven the least dangerous of all. Now of these local or block anaesthetic heads the list as being the least dangerous. As a general anaesthetic I am sure we will all agree that gas-oxygen is by far the safest. I must differ with Dr. Eubanks in his statement that gas can hardly be used universally in a small hospital. For some twelve years I am sure that 75 per cent of our own patients have been operated on under gas anaesthetics, our choice being ethylene and oxygen. If I remember correctly we have had no deaths from the anaesthetic during these many years.

I have already suggested to you that local or block anaesthetic is the anaesthetic of choice and has no mortality. As I see it, this should be used by all means in bad risk cases. In using local anaesthetics a great deal of care and patience have to be taken in its administration. I call your attention to a Pitkin syringe put out by one of our reputable instrument houses that is a great aid in the administration of local anaesthetics. I tried to get one of these just now from some of the exhibitors to show you but failed. I have, however, a cut of one and you will notice a pump arrangement is attached to the syringe, a tube connecting it with a vessel of novocain solution, and in its use the syringe is automatically filled with novocain, thus eliminating the necessity of withdrawing the syringe or the needle for refilling purposes. By a careful study of the anatomy and nerve supply of the parts in and adjacent to the operative field, most any kind of major operation can be done with local or block anaesthesia. Now where you have a nervous and irritable patient, or where you have many adhesions to deal with, the combination

local and gas oxygen anaesthetic is indeed an ideal one. With the block of the novocain traumatic shock is prevented, and the psychic shock is prevented by the use of gas oxygen, which, as I have already indicated, is the least toxic of all general anaesthetics that we have at this time.

Dr. Frank Hagaman (Jackson): I think Dr. Eubank's selection of the title for his paper is especially fortunate. It seems to me the best work in any surgical procedure can be done by the proper selection of the anaesthetic. The surgeon who becomes wedded to one form of anaesthesia is not taking advantage of the many recent advances in this subject. I think this discussion has brought this out very well, and I have enjoyed the paper very much.

There is one other form of anaesthesia that has been very successful in my hands. Its application is limited, but in its field it is most efficient. I refer to sacral block. The percentage of complete anaesthesia is very high, but if for any reason a complete anaesthesia is not obtained, any form of inhalation anaesthetic can be combined perfectly with it as has been mentioned by Dr. Philpot.

Dr. George F. Carroll (Biloxi): I wish to emphasize only one or two points. The doctor unfortunately beat me to it, and that is sacral block. I wish to commend Dr. Eubanks on his paper, with special reference to spinal anaesthesia. We have been doing it here in Biloxi for five years without any ill effects or any discomfort. However, I do not agree with Dr. Eubanks that it is a simple procedure most any doctor can do. Spinal anaesthesia properly administered is a highly specialized technique. You can not simply pick up an ordinary hyperdermic needle and produce a satisfactory spinal anaesthesia. It can't be done. Many misses will be the result, but in properly selected cases spinal anaesthesia has been most effective. However, it has been the goat in many instances in operative procedure. In some cases you would no more select spinal anaesthesia for that case than you would select ether for another one with acute pulmonary trouble. In properly selected fields it is the safest anaesthetic known to surgery today. One of the doctors who discussed this matter brought out a very important point, that is the trained assistant at the head of the table, who with psychology aids you both with local and spinal. There are drugs on the market now that have lengthened spinal anaesthesia. I have gotten an hour and 45 minutes. There is no reason why your time and extent can not be highly gauged. That is one of the points in the high specialized technique. Another point is Dr. Hagaman's mention of sacral block—it is an ideal combination in any condition about the rectum, hemorrhoids, fistulas, portions of the scrotum, testicle and vaginal canal, and

as high as the cervix, and produces one of the most ideal surgical fields a surgeon would want, produces relaxation of your sphincter muscles. Very little dilatation is necessary at all. This is also rather a careful technique and I differ with Dr. Hagaman on one point, it is one in which death can be produced. The entrance sometimes through the caudal canal which is also a portion or part of the sacral block will gain entrance into the spinal canal and produces an unsafe condition. The introduction of the needle into the veins will produce immediate and extremely dangerous results. This is also a technique that should be perfected.

One thing I do not believe any one has mentioned is local anaesthesia. Local is one of the best we have properly used. I do not like the edema produced by it. I have found that local has been largely supplanted in our use by what is known as field block, especially in hernias, and appendectomies. This requires an accurate knowledge of the nerve centers. These I believe are the chief points I wish to emphasize and bring out.

I enjoyed Dr. Eubanks' paper very much indeed, and as he brought out, I think the name spinal anaesthesia should be changed. Ether complications often times are not apparent for 48 or 72 hours. The results from spinal anaesthesia result immediately within a comparatively short time. It offers a parachute sometimes by which the operator can get out of a bad position.

Dr. Joe E. Green (Laurel): I just wanted to ask one question. I do a bit of office gynaecology. I do not do any surgery, and consequently I have women come to my office and say "Doctor, I have got a headache right back here and have had it ever since I took that needle in my back bone," and sometimes it looks like it might be from that, and I would like to ask if your spinal anaesthesia does cause that constant headache, and I believe this, if we go to operate or do anything else, when we carry that patient to the table, if we just make a change and put the surgeon where the patient is, we will be more careful.

Dr. Eubanks (closing): I will take the last discussion first. As for the headaches, they can be caused by the spinal anaesthetics but more often, I think, they are from improper technique. The use of a large needle or one with a ragged point which allows the slow escape of the spinal fluid may be a cause. After the anaesthesia is over one may sometimes get a headache but if this is not due to faulty technique it will not last long.

Dr. Hagaman, I think, misunderstood me as to spinal anaesthesia being a simple procedure. I do not think anyone should attempt to give a spinal anaesthesia until he is thoroughly familiar with the technique, pre- and post-operative care.

One thing I would like to bring out is that in extensive infiltration, once in a while one will get a patient who is sensitive to procaine. Any of the barbiturics given before operation will allay the nervous tension and also act as an antidote for procaine poisoning.

As to giving inhalation anaesthesia on a full stomach, we have to do it at time but we do not like to do it and never feel that it is safe.

We used to look in a patient's mouth to see if he had false teeth, if he did we removed them and went ahead. I believe that most of our pulmonary complications following anaesthesia can be eliminated with proper oral hygiene before anaesthesia. Even with the talks that Amosn' Andy give us it is alarming to see the number of filthy mouths and it is so easy for this material from around the teeth to be carried into the lungs.

As to the value of the good looking nurse, I call it vocal anaesthesia which can be very helpful both in local and spinal anaesthesia.

Management of Labor in the Home

D. A. RATIFF, M.D.
Columbia, Miss.

When asked to give something in obstetrics I thought of subjects such as toxemia of pregnancy, pre- and post-natal care, birth injuries to mother or child, and many others, but found none that I thought is of greater interest than the one I have chosen, namely, "Management of Labor in the Home."

This I am sure is a time worn subject, but as it will apply to a greater number, I thought it well worth consideration, as statistics will show far over 50 per cent of deliveries are done in the home.

Please do not get the impression from this paper that I do not approve of hospital obstetrics, because I do, and use it both for normal and abnormal cases and always advise it for the latter.

Time will not permit me to go into every detail of prenatal care, so I shall take up only a few important points up to the preparation for and the time of delivery, which I shall discuss more fully.

Obstetrics has not always been on as high a plane as it is today. Up to the early part of the 18th century, it was only done by midwives, and as late as 1825 if a man did obstetrics he was dubbed as a man midwife and was scorned and not allowed admission to the Royal College of Surgeons.

Queen Victoria had midwives for her earlier labors.

In 1850 when Dr. White of Buffalo, delivered a woman before a class, he was denounced

by the press and his own profession, and tracts were circulated declaring that the employment of men to attend women in childbirth was unnecessary, unnatural and injurious. This I am thankful to say is not the case today as the pregnant woman needs and is entitled to the best of everything, and her delivery should be conducted in the most painstaking way, and just as sterile as any major abdominal operation.

Having made these few preliminary remarks I must hasten to the main subject of this paper.

When a woman comes to you and places herself under your care as an obstetrical patient she should have a very careful physical examination, taking special notice of date of last menstruation, number of children, character of labors, miscarriages, operations, physical condition, measurements, pelvic examination, blood Wassermann, etc., and regular examinations of kidney specimens, weight and blood pressure. Edema, headache and exercise should be noted.

I always try to have my patients take at least three complete examinations, and if any abnormality is observed this examination is done as often as needed and proper treatment or advice instituted.

At the time of the third examination which is about six weeks before expected time of confinement details are again gone into with special reference to diet which is about as follows: one pint of milk a day or its equivalent in dairy products, one egg, three large servings of vegetables, one a dark green leafy vegetable, 8 oz. of orange or tomato juice, about 5 oz. of meat or fowl, one tablespoonful of butter, potatoes once daily, sufficient hard food to insure adequate exercise of the teeth and jaws. Inspection of the nipples and breasts is made and instructions given for their care. Reinstruction is then given about their exercise and especially walking which should be done in the open; to take only standing or shower baths beginning at least three weeks before expected time of confinement. At this same examination you are always able to note more accurately any abnormality if present, also position, presentation, and engagement. The above having been done we are now ready to instruct the patient what to have ready for delivery.

I have them secure boards sufficient to cover the entire bed solid from head to foot, and cut them $4\frac{1}{2}$ feet long if a regular bed is to be used, or shorter if a $\frac{3}{4}$ bed is used, and to have plenty of boiling water when I am called. On my arrival I take all mattresses off the bed, place the boards on springs and newspapers on the boards, then select the hardest mattress I can find and complete the preparation of the bed with the usual rubber sheet next to the

mattress then a plain sheet and pad, a heavy layer of newspapers and a draw sheet which is removed after delivery leaving a clean bed for the patient.

Blocks are now placed under the posts as will be shown later, which makes a bed the same height and just as good as a regular delivery bed, which I use in the hospital in Columbia.

The patient is now placed on the bed and given an enema, then the parts are shaved and cleaned by the nurse.

If there is any doubt as to the progress I put on a rectal glove and do a rectal examination. You will notice I said a rectal glove as I use this glove for no other purpose. I admit that some of you may object to the rectal examination though I do not, and use them cautiously in all slow cases because I am confident even one vaginal examination done many hours before delivery or without thorough preparation of the parts is much more dangerous than several rectal examinations. This examination gives me sufficient information as to decent, progress, etc. And an idea as to how much time I have for the rest of the preparation.

Being convinced that labor has actually begun and if the membranes are intact the patient is allowed to be up and taking of light food and ample water is encouraged. Also the question of sedation now presents itself. Needless to say there are more different kinds of sedatives in use today than ever before, such as morphine, scopolamine, magnesium sulphate, oil-ether, barbiturates, plain ether, chloroform, gas, novocain solution, and many others, and the time they are given depends on the case and the sedative used. Usually it is my preference to give one early and by mouth, and repeat or increase the dose as indicated, being careful not to give a complete analgesic dose more than three to four hours before delivery.

While this is being done the nurse has placed the instruments, gloves, placenta basin, etc., on to boil and a large basin of sterile 0.5 per cent solution of lysol is fixed.

As soon as bulging begins the patient is put to bed and the parts are prepared the same as for any abdominal operation, which includes, emptying the bladder, proper draping with sterile leggings, linen and sheets.

There should be thorough masking of nose and mouth, and cap should be worn by all in attendance as I believe many patients are infected in the early puerperium by failure to do this.

With the gloved hand a vaginal examination is done after another cleansing of the vulva and painting the parts with mercurochrome-acetone solution to determine more definitely the presentation, position, descent, etc.

As the head comes down on the perineum a

small amount of inhalation anesthesia is given while I prepare to infiltrate the perineum with 20 to 30 cc. of 0.5 per cent solution of novocain. In order to perform an episiotomy it is necessary to inject more solution under the skin and the vaginal mucosa in the direction of the purposed cut. Where the child is large or forceps are to be used it is best to inject about 10 cc. in each ischiorectal fossa between the anus and each ischial tuberosity, penetrating to a distance of about 5 cm. While doing this you should keep two fingers in the vagina to guide the needle into the depth. Injecting into the ischiorectal fossa results in absence of pain sensation, but the sensation of touch persists, hence the stimulus to bear down remains. The patient is not afraid to bear down because there is no pain associated with it and relaxation is more complete and many heads will come over the perineum without episiotomy than would do so otherwise, but if episiotomy is necessary same can be done and repair can usually be made without any additional anaesthetic.

When laceration occurs, in case where no anaesthetic has been used, it is only necessary to infiltrate the edges and adjoining tissue of the laceration to repair it painlessly. In the case of old laceration, the lower parts of the vulva, the perineal body, the rectovaginal space and the levator ani muscle and fascia are infiltrated as for a spontaneous delivery. A plastic operation under local is much simpler than one performed under general because the solution makes the line of cleavage stand out more prominently.

If it becomes necessary to use additional anaesthesia as the head is coming through or in case of extensive episiotomy or forceps, I prefer the use of ether, which should be pushed only a short while to get complete relaxation, thereby affording better protection to the parts.

I will not go into details of management of delivery of the foetus, as time will not permit, but will only call your attention to the importance of thorough removal of mucus and blood from the child's mouth and throat so that it may breathe.

After the foetus has been delivered I do not routinely use pituitrin, but examine the cervix, vagina and perineum for lacerations and if episiotomy was done I begin repair of same as soon as delivery of the placenta has been completed, by using interrupted No. 2 chromic catgut for the deep sutures and silkworm tension sutures which are tied very loosely and removed on or about the seventh day. Some prefer the figure of eight silkworm sutures exclusively, but I do not like this method because they are sometimes very difficult and painful to remove.

Time will not permit details of the third

stage and all post-natal care and instructions, but here I will make a little comparison between hospital versus home delivery. A statistical investigation by Robertson shows that the proportion of deaths from puerperal sepsis in relation to the total deaths is highest in the states in which the largest number of births take place in the hospital, and is lowest in the states in which there is a larger percentage of home deliveries.

Deaths from accidents of labor are lowest in the states with the highest percentage of hospitalization and highest in the states with the highest percentage of home deliveries. This would seem to prove that the hospital would be the safest place for the obstetrical patient if sepsis could be controlled. There is undoubtedly a greater risk of contagion and of infection by carriers in the hospital. The time is ripe for a revaluation of scope of home delivery for the normal case.

Fortunately the principles of the conduct of labor are not difficult to master. Nature is still on her job. Though perhaps somewhat destructive, she can do it better than unskilled human beings.

Let doctors be taught the beauties of normal obstetrics, the principles of asepsis and the principles of intelligent expectancy, trusting much to nature. Then there will soon be a reduction of the national maternal mortality and morbidity. In the meantime the medical profession can hold the vision of its ideals and struggle to attain them, and it will attain them only through education—education of the medical schools, of the universities, of the doctors and of the public.

Letting a woman pound the baby's head on the pelvic floor hour after hour is midwifery by omission. Doing routine versions and extraction is meddlesome midwifery, unscientific and pernicious.

Blasting the baby through the birth canal with a solution of pituitrin is meddlesome midwifery.

Caesarian section, selected properly, may be the finest kind of obstetrics, compared to a scientifically conducted normal labor but the frequency in which it is performed today is often an exhibition of the poorest obstetrical judgment, of which even a midwife may well be ashamed.

The present is an era of prophylaxis.

Someone has said of pre-natal care, the aim must be a constructive regulation of physiological function as much as the prevention of pathologic conditions.

The conduct of labor must meet the requirements of modern womanhood. The woman nowadays demands a safe labor, freedom from unnecessary pain, a reasonable length of labor, and, when she arises from her confinement, a feeling of well being. She also

demands a healthy baby undamaged by conditions affecting it during pregnancy, and free from the effects of traumatism during labor.

It is a well known fact too often forgotten that the first stage of labor takes time and pain to secure dilatation of the cervix, and that it is accomplished by a series of physiologic acts so perfectly executed that man cannot improve upon them. These, however, may be favored by the judicious use of anodynes.

Relief of pain, time, sufficient rest, food and plenty of liquids are the basic principles in the conduct of the first stage, and finally, to leave her in such a physical condition that she may be an economic asset to her family and to the community, namely, to assume charge of her child, nurse it, and attend to her household and social duties.

To obtain such a result, presupposes a careful antepartum observation, a labor that is properly managed, hemorrhage controlled, injuries repaired, involution completed, and before she is discharged, the correction of uterine displacement.

DISCUSSIONS

Dr. J. Gould Gardner (Columbia): Asking me to discuss a paper on obstetrics reminds me of what Raymond Hitchcock, the famous actor, once said when asked why he was in musical comedy. He said, "The reason I do musical comedy is because I can neither dance nor sing." I don't deliver the babies. In the last seventeen years I have delivered a few doctors' wives; and so, I am going to discuss this splendid paper from the viewpoint of the surgeon.

The surgeon sees a good many patients, too many in fact, suffering from acute conditions, the result of faulty technique. The maternal mortality and morbidity is certainly not flattering in Mississippi. Due to a number of causes, I shall only mention a few, septicemia, phlegmasia alba dolens, genito-urinary infections, breast infections, etc. Then there are the chronic conditions, which the surgeons see often, lacerations of the cervix producing a chronic cervicitis, laceration of the perineum with more or less of a cystocele, rectocele and the various uterine displacements, causing not only inactivity and distress, but also producing an economic loss. With the proper technique and mechanical devices, which the essayist has described, most of the conditions I have described will be prevented.

The essayist has told you the mortality rate is higher in the hospital than in the home. This is true, perhaps in the large hospital where infections get started and are hard to control, but it is not the case in the hospitals of Mississippi. Besides there is another point to be considered when we remember that the

worse cases are sent to the hospital, some so late that the only result obtained is to increase the hospital mortality rate and decrease that in the home. There are now 250,000 babies born in the hospitals in the United States each year. There is no doubt the ideal would be for every mother to be delivered in a good hospital by a trained obstetrician.

One thing, which was not brought out, was the need of a good light. This is of inestimatable value in the delivery and subsequently to inspect and repair whatever is needed to be done. The paper was very fine and I wish to compliment the essayist upon his splendid presentation.

Dr. Maxwell E. Lapham (Jackson): It impresses me that this paper is a particularly appropriate one to present to a group of general medical men, and it was particularly interesting to me because I am trying to develop the same type of interest in obstetrical technique. Dr. Ratliff sometime ago discussed with me the idea of a paper on this subject, and I have a feeling that every person who is doing obstetrics, especially in the home, should profit by this presentation.

Perhaps one's equipment doesn't have to be quite as elaborate as that described by Dr. Ratliff, but he is probably more interested in obstetrics than many men who are doing general work at the present time, and, consequently, he anticipates some complications. One of the things I am asked most frequently is what I would do personally if I were called to conduct a delivery in a home where there was nothing but a single pan in which to wash one's hands and to use for sterilizing instruments. My answer is that if I encountered that deficiency often, I would take home equipment of my own. Anyone could get up some such equipment as this, and thereby obviate the deficiency of poor preparation on the part of the patient. I do not believe anyone would have much trouble in assembling some such equipment. We all could do much better work if we did have at our disposal a well equipped obstetrical kit, especially that type of equipment which might have to be used in an emergency. As 5 per cent of all the cases we manage are complicated in some way, we never know when we are going to meet them, and, therefore, it should behoove us to be prepared at all times.

I want to congratulate Dr. Ratliff on the excellent presentation, as well as the demonstration of his particular equipment.

Dr. Ratliff (closing): I appreciate very much the remarks Dr. Gardner made on the paper and want to thank Dr. Lapham for his kind remarks. We were very fortunate in having Dr. Lapham with us in Marion County for this course in obstetrics. I think I missed one lecture. I want to tell you gentlemen, if he

comes in your neighborhood, whether or not it is in your immediate vicinity, and whether you do obstetrics or not, he is well worth hearing. His talks are all practical and he gives you something worth listening to.

In regard to Dr. Gardner's suggestion for light, I think he is exactly right, and I want to say to you that I have a flash light which contains five little dry cells. It has a large focus and it will burn all night. You can set it up, hang it up, wear it as a head light, or place it in any position you want to, and it gives you perfect light. You can use it out in the back woods as well as in the cities.

Dr. Lapham said something about the weight of this equipment. It is rather heavy I admit. The bag weighs about 28 pounds with the material and the solutions in it. The other is very light. I have learned to carry it myself. I have a little string on the blocks and I carry the blocks and the turkey roaster in one hand and the telescope bag in the other.

I want to thank you gentlemen for your attention and the doctors for their discussions.

Management of Diphtheria*

W. A. JOHNS, M.D.
Corinth, Miss.

Like tuberculosis, this dread and fatal disease, has received much study. Much progress in etiology, treatment and prevention have been made, but it still reaps a deathly toll every year. The management of diphtheria would come under two heads: preventive and curative. That there are carriers of diphtheria is the only explanation I can make why we have the disease every year and often single cases on isolated farms and no known sources of exposure. Some of our old doctors have observed that children who had been playing with cats with some throat trouble developed it and also on farms where they played in mud around watering troughs where chickens had died of roup. I regret that I have not been of the scientific turn of mind, not only to observe but prove things.

During my 41 years' practice of medicine there have been two decided epidemics of diphtheria in the Corinth territory with a few cases every year. It was noticeable during these epidemics how mild were some cases, and how severe were others. In one family four children had the disease and the mother treated them successfully by mopping their throats with St. Jacob's Oil—when the fifth

and last child developed the disease it was very severe. I also noticed that we had a streptococcic membrane in some throats. It was our custom when seeing a suspicious throat to take a swab and send to the laboratory for diagnosis, and then give antitoxin immediately. Most of the cases were well before the laboratory report was received. Some of the reports returned showed "streptococci—no diphtheria bacilli found." In these cases the fever ran high, the membrane was confined to the tonsils and was generally darker, dirtier in color, but the odor was equally as offensive. I believe some cases are overlooked by the doctor not examining the throat or doing so with insufficient light and violent opposition. Yet I have seen diphtheria slip up on one—what on the first day seemed a simple follicular tonsillitis would in a day or two be having membranes spreading to soft palate and larynx. Negroes do not seem as susceptible as whites. We have a large negro population but I remember seeing only one case of laryngeal diphtheria among them.

Vital statistics of Mississippi for four years, 1930 to 1933, inclusive:

Total white cases 4188, deaths 353

Total negro cases 1362, deaths 262

The negro and white population is near the same in Mississippi but there are three times as many white cases as negroes. The death rate, however, amongst negroes is much higher—probably they are poorer and more neglected.

Diphtheria does not seem to be very contagious and this is perhaps the reason why preventive measures have not been used more intensely. To illustrate—one of my first cases—before antitoxin days—was Jno. H. W., male, age 2 years, one of ten children living with their parents in a four room house. The weather was cold and they were confined to the house—we tried to keep the other children away from the bed. Although this was a severe case of laryngeal diphtheria lasting ten days with a convalescence ten days more, none of the other children contracted the disease.

(Jour. A. M. A., 3-16-1935, Editorial): "A determine effort will be launched to promote diphtheria immunization according to notification sent to National Health Organizations and to the Press. The objective was chosen because there has been no reduction since 1930 in the number of deaths from diphtheria throughout the United States. Some states have accomplished a noticeable reduction, therefore it must follow that others have suffered increases."

(Item in Commercial Appeal, 3-8-1935): "Plans for launching the most intensive diphtheria immunization campaign in Red Cross history. Inoculations for all children between one and ten years are being furnished by the Red Cross for Quitman, Panola, Tate and Tun-

*Read before the section on Eye, Ear, Nose and Throat at the Sixty-Eighth Annual Session of the Mississippi State Medical Association, Biloxi, May 15, 1935.

ica Counties. The Mississippi State Health Department provides the personnel, etc., the Red Cross will buy the toxoid. It is estimated that inoculations will be given to 1,400 children, costing the state in the neighborhood of \$1,200."

Such a plan to cover the entire State would be desirable and efficient. But in six months the Schick test should be used in all these cases and toxoid administered where the test proved positive. We have seen two cases of diphtheria in 1935 where toxoid was used about one year previously. It must not be lost sight of that grown-ups also have diphtheria. One of my first cases was in a man 40 years of age who developed great glandular swelling of neck and went on to death from sepsis. This was before the days of antitoxin. Another recent case was Mrs. R., white, age 39 years—she received 125,000 units of antitoxin in six days and went on to recovery but had a permanent paralysis of vocal cords.

Most of the cases coming under our observation are laryngeal or late stage cases and severe—often near death when first seen.

Antitoxin treatment is very satisfactory—10,000 units in mild, early cases, 20,000 in severe, late or laryngeal cases and repeat in 12 to 14 hours. However, some cases go on to fatal termination in spite of all measures.

When suffocation threatens intubation or tracheotomy may be performed and I have seen a few cases restored to health after they had apparently breathed their last breath, by each of these methods. Intubation can be done quicker, does not look so bad to the family, but you frequently have inefficient help in holding the child and also membranes will often be pushed ahead of the tube, plugging the trachea and causing death quickly. Tracheotomy takes a little more time and preparation but your patient is not so apt to die under the operation. And in case membranes are in the trachea you have a better chance to remove them. The recoveries have been a little better in the tracheotomy cases. Probably results would have been better if cases had been operated on earlier but in nearly all my cases there was no choice except to operate immediately.

Illustrative cases: John B. white, male, age 6, seen on fourth day of disease—he had received antitoxin but was suffocating. Intubation was done and he revived promptly. On the third day he was up playing on the floor when in a spell of coughing he expelled the tube. He began sighing and died within an hour before a doctor reached him. He breathed O.K. and our opinion was he died of fear—for he had been warned not to remove the tube—though it may have been heart failure that frequently follows diphtheria and an error in treatment had occurred when he was

allowed to be up and playing.

L. M., white, male, age 2 years. Sick three days. Had received no specific treatment, breathing very labored. Introduced tube, evidently pushed membranes on ahead of tube—breathing stopped—child died immediately.

H. P., white, male, 6 years. Fourth day of the disease. Had received two doses of antitoxin. While preparing for operation the father reported child had stopped breathing and was dying. Following a hasty tracheotomy and artificial respiration he recovered. He was hoarse for one year.

W. C. W., white, male, 10 months. Second day of disease. Gave antitoxin. Did tracheotomy. Good breathing and color restored and everything seemed lovely. The nurse in this case was inexperienced in handling this type of case. The tube became clogged—she removed it to clean it and could not replace. The child died 18 hours after operation. This case was 25 miles away.

J. B. M., white, male, 5 years. Third day of illness. Was very septic. Had received two doses of antitoxin. Tracheotomy done and a large long membrane removed from trachea. For 3 days the battle was on, the tube had to be cleaned frequently, suction used, more antitoxin, air kept moist and warm. On the 3rd day fever went suddenly high and he died in a few hours from pneumonia. This case was markedly septic from the start.

Mary M., white, female, 7 years. Fifth day of disease. Had received three doses antitoxin. She was gasping for breath and quit breathing, lips turned dark. The father said, "It's no use, Doctor, she is gone." Intubation and artificial respiration soon got her to breathing, color returned and she went on to a perfect and uneventful recovery.

It is an unpleasant feeling to have the grieving parents say: "Oh, you have killed my baby." But it is gratifying to know absolutely that your efforts have saved a life.

With intubation, remove the tube in three days, wait one hour to see if breathing is well established—if not intubate again. In tracheotomy, remove the tube in five days and observe same precaution as above.

As a preventive measure in those exposed to diphtheria, I give a one thousand unit prophylactic dose and advise toxoid in two or three months.

Keep the patient quarantined for two weeks after he seems well. A better rule would be to keep him quarantined until after two negative cultures—where feasible to follow by laboratory examination.

Having your patient in a hospital with good nurse gives more hope for the patient and ease of mind for yourself.

Dr. C. A. McWilliams (Gulfoort): There are a few points in Dr. Johns' paper that I would

like to discuss. While his paper does not deal so much with the diagnosis of diphtheria, it is important that we keep on the look-out for the unusual types of diphtheria—of the nose and ear. I believe that if more cultures were made of the stubborn discharging ear that many would be found to be caused by the Klebs-Loeffler bacillus. After making a diagnosis of diphtheria—if there is no involvement of the larynx I practically always turn the case over to the family physician for treatment. I feel that every case of diphtheria should be under the care of the family physician so that he might look after the heart and kidneys and the general health. In giving toxin-antitoxin or toxoid the parents should be informed that it takes two or three months to develop an immunity and at the end of that time only about sixty or seventy percent are immune. I have seen several cases of diphtheria develop after the giving of the toxin-antitoxin and the parents were under the impression that the child would not take diphtheria after administering this preventative.

In laryngeal diphtheria I first give antitoxin intravenously. If no improvement is shown I do a tracheotomy—preferring this to intubation. I am positive that the former is much safer unless the patient is in a hospital with an interne on duty at all times to reinsert the tube if it is coughed up. I never give a preventive injection of 1,000 units of antitoxin as I feel that it is insufficient to immunize them in the first place. Secondly, if they should contract the disease it adds unnecessary risk in giving the second dose of antitoxin.

The management of the diphtheria carrier is best carried out by the removal of the tonsils and adenoids and the elimination of any sinus infection.

Dr. E. LeRoy Wilkins (Clarksdale): It is indeed a pleasure to have one so rich and ripe in experience, bring us such a paper. I am sure that we have all enjoyed it.

After such a paper, and discussion by Dr. McWilliams, there seems to be little to discuss or add. However, the program says I am to discuss.

I have often wondered, if under conditions that might develop in the throat of certain individuals, and which we can not reproduce artificially in the laboratory, the so-called "pseudo-diphtheria bacillus" might not become a TRUE and be the cause of our so-called sporadic cases.

I believe, and have proven in the laboratory, that diphtheria may be, and frequently is, implanted on an acute tonsillitis. Thus, it isn't always a case of mistaken diagnosis.

As for prophylaxis, I believe that it should be a part of the service every doctor should

render the babies he delivers, just as much as the care of the eyes at birth, to see that that child has its diphtheria "shot" at the age of six months. Those that are not seen by a doctor, should be treated by the health officer. We are supposed to have a record of all births and this would not be such a great task to keep track of, and do. In a short time they could be trained to come to the office for it, thus training the midwives in so advising. It is as unpardonable to have an outbreak of diphtheria as it is of smallpox. It is quite rare that there is a death from diphtheria where the patient has had toxin or toxoid. Very few cases of it, even.

I rarely give the immunizing dose of antitoxin to those who have been exposed three days or more. (The period of incubation is from two to seven days). I take this stand because of the possibility of anaphylaxis which might be developed and hinder the treatment should the disease develop in future life. They are watched carefully, and, of course, isolated from any further contact. Just here, are we careful enough in handling our cases, not to become carriers? It is stated by some authors that about 70 per cent of those handling cases of diphtheria will show positive cultures. I know of one case where it was definitely traced that a doctor carried the disease from one case to another.

Perhaps it has been because I have been fortunate in not needing to do so, but I have never given a patient anything like so large an amount of antitoxin as Dr. Johns gave to "Mrs. R." I use a large initial dose, sometimes giving a part of it intravenously, especially in the laryngeals, and occasionally a second dose as large or somewhat larger, rarely a third dose and I do not recall a fourth dose in any case. The serum reaches its height in about eight to twelve hours.

I had the misfortune to hear the words "you've killed my baby" in one case, where I attempted an intubation, then a hurried tracheotomy. I believe this was a death due to a toxic heart, as the heart's action could not be demonstrated immediately the untoward symptoms developed. The child had been showing definite cyanosis for at least 24 hours before I saw it, and sick about 4 days.

I believe, and so instruct my patients, that all cases of diphtheria should be kept quiet for at least ten days or two weeks after the fever is gone. Perhaps a better index would be "when the heart has reached and is maintaining a normal in its action."

I was called to a case, one night, about 20 miles from my office and a laboratory, where there was no electric or adequate lights, and my illuminated tongue depressor was the best light available, to see a child whose "nose and mouth" had been bleeding for at least twelve

hours. On examination of the child, who had had much done for it, I was suspicious of diphtheria, though examination was, to say the least, difficult. The doctor who had been in attendance, disagreed on the diphtheria. There was no pharyngeal membrane, though the nose was clogged with blood and, I now know, membrane, as was the naso-pharynx. The child was given a full "shot" of coagulating serum, a swab taken to bring back to the laboratory, with a few suggestions for treatment and care. Early the next morning, as the parents were taking another child to a Memphis hospital for treatment for a bladder condition, they loaded this little fellow in and took her along. At the hospital, the child died in a few hours from a nasal and naso-pharyngeal diphtheria. The other child, after a stormy period, finally recovered from a vesical, and I believe, vulval, diphtheria. This latter case has been reported as quite rare. It is supposed that the case that I saw, developed her trouble from her little sister who had been ill several days with the same condition in this unusual location.

Again, I thank Dr. Johns for his excellent paper.

Cancer of the Lip: A Review of Recent Literature, With Special Reference to Radiation Therapy

DR. J. A. BEALS
Greenville, Miss.

Lip cancer is one of the most accessible varieties; curable with certainty in its early stages. It comprises 2% or 3% of all cancers. Men are fifteen to twenty times as often affected as women. The lower lip is affected about twenty times as often as the upper. This type of cancer is uncommon among negroes. Chronic irritation from smoking, sharp teeth, sun, wind, etc., are important predisposing causes. The greatest frequency occurs in the decade 50 to 60. Rarely it occurs in the decade 20 to 30 or younger. Practically all lip cancers are of squamous cell type, sooner or later metastasizing to the lymph glands of the submental and submaxillary, eventually to the deep cervical group, but rarely beyond.

There are two principal clinical types: (1) the rather flat, infiltrating ulcer, a type which often progresses rapidly and may show early glandular invasion; and (2) the warty, papillomatous type which tends to be less malignant and many even protrude as a horribly disfiguring mass without the glands being invaded.

Precancerous lesions have been present for

many months, often years, in many cases. The commonest of these are scaly, keratotic patches, areas of leucoplakia, warts, persistent or recurring fissures, and indolent superficial ulcers often called "cold sores" by the patient. These precancerous and early malignant changes involve the epithelium of the vermilion border, nearly always of the lower lip, usually away from the center, and occasionally at the angle of the mouth. It is an excellent rule that any sore on the lip which does not heal within two weeks should be suspected of malignancy. As in skin cancer, any thickening of the base, or edges of a precancerous lesion is sufficient for a clinical diagnosis of malignancy. As in skin cancer, any thickening of the base, or edges of a precancerous lesion is sufficient for a clinical diagnosis of malignant change. Many cancers of the lip remain small and do not metastasize for months, or even years. As a class they are distinctly more malignant than squamous cell cancer of the skin, of which they are often considered a variety.

Prognosis, especially as it depends on radio-sensitivity, is related to the histological grade of malignancy. However, clinicians have greater confidence in clinical features. Patients with lesions less than 2 cm. in diameter usually experience permanent local cure after adequate treatment. Most of these never develop neck metastases subsequently. Long duration is generally unfavorable, but may be due to a low grade malignancy of slow growth. Kennedy's (15- 233 cases were present on the average 9 months before treatment; but those with metastatic nodes gave an average duration of 11.3 months before treatment. The presence of more than superficial infection renders treatment difficult and often unsatisfactory. Perhaps the most unfavorable influence is that of inadequate treatment by radiation, cancer paste, or surgery, which seems to enhance the malignancy of the recurrence. (4) Lesions situated at the angle of the mouth, and those which have involved the buccal mucosa are especially apt to have metastasized to regional lymphatics. Oral sepsis renders treatment more hazardous and many consider it essential to remove this factor before any treatment is undertaken. Syphilis detracts from the prognosis as it does in all forms of cancer.

When lymph glands of the neck are involved the prognosis becomes grave but by no means hopeless, for nearly 50% of these can be cured. Kennedy (15) estimates that only 1/4 of all cases will have metastases microscopically demonstrable in the nodes at the time treatment is instituted. In his series 60% had palpable nodes of which number 33% showed metastases; 40% had no palpable nodes and 14% of these showed metastases. When the primary lesion was 1.5 cm. or less only 5% had neck me-

tastases. When the primary lesion was 1.5 cm. or less only 5% had neck metastases.

The treatment of cancer of the lip has to be considered under two heads: (1) the local cancer which the patient seeks to have removed; and (2) the regional glands about which most patients are not concerned, although they constitute the major obstacle to complete recovery.

The local cancer of the lip can be cured by any method which completely destroys it. The V shaped excision of a segment of the lip for small lesions is favored by many surgeons. Large sections, even including the entire lip can be removed, although plastic repair may be needed subsequently. (29-20) Electrocoagulation is favored by many (22). Lip cancer was one of the first cured in its local manifestations by X-ray and radium. Radiation has the advantage of somewhat better cosmetic results. The local cures at experienced hands are probably equal to those of surgery, but experienced radiologists have not been, in the past, so numerous as competent surgeons. Local recurrences, after any method, are usually due to undertreatment, and ultimate failures are too numerous for complacency.

There is little agreement as to how the glands of the neck should be treated. Some surgeons insist upon a routine prophylactic block dissection of the neck or a more limited dissection of the submental or submaxillary glands on one or both sides. According to 30 replies to a questionnaire sent to prominent cancer therapists about two thirds prefer to restrict these somewhat drastic surgical procedures to those cases in which the glands are palpably enlarged. Some feel that when the first barrier of nodes has been reached, nothing short of a complete dissection of the neck on one or both sides will suffice to cure the patient. When the glands contain metastases other therapists prefer radiation with needles or radon seeds introduced after surgical exposure, at times with added external radiation. Radiologists are prone to rely upon external radiation, usually by X-rays, to prevent the development of glandular metastases, or even to hold in check metastatic nodes already developed. There seems to be no proof that external radiation alone can permanently cure metastases of lip cancer in the cervical nodes. Several surgeons who practice neck dissection irradiate the field before and after dissection.

There must be a small percentage of five year survivals of lip cancer cases as they are generally treated at present by all those who undertake the treatment. Eastbrood (2) (1932) reporting the five year status of 72 cases treated in seven Philadelphia Hospitals, found 21 living, 30 dead of cancer, 6 dead of other conditions and 15 untraced.

As in all forms of cancer therapy, it is to

the few students and leaders of large experience that one must look for guidance. In radiation therapy which is developing by rapid changes, the conviction of such leaders carries more weight than statistics.

A review of the past five years' literature on lip cancer and glandular metastases, shows but few important articles advocating purely surgical treatment of the primary lesion. It is of interest that two were presented by invitation at the 1932 meeting of the American Radium Society. One is by Blair et al, of St. Louis. They treat all except late inoperable cases by excision with immediate or later plastic repair. In practically all cases, with or without palpable glands they do a radical dissection of the neck, including the submental and submaxillary lymph glands, down well below the bifurcation of the carotid. In addition they use X-ray therapy routinely to the side of the neck, but not to the local lesion. Statistical results are not mentioned.

Treatment has been purely surgical in the New York Skin and Cancer Hospital, as reported by Kennedy (15) (1934). Eighty percent of their series of 246 cases received surgical excision of lymph nodes. Over half of these had a more complete block dissection of one or both sides of the neck. The surgical mortality was 11.4%, about $\frac{1}{2}$ of the number. 12 patients, showing no microscopic metastases in the nodes removed. It is difficult for this reviewer to see much justification for Kennedy's insistence upon routine surgical removal of neck glands since it is possible to compute from his own figures that as many cases were lost by surgery as were saved by extending the operative indications to those patients without palpable glands.

The treatment practiced at the Mayo Clinic is chiefly surgical. Figi (4) (1934) reports fully on 942 cases treated there between 1920 and 1930. Only 58.6% were primary. Treatment of suspicious lesions was superficial excision, further treatment being guided by the microscopic findings. Clinically malignant lesions were removed by the V excision. Plastic repair was necessary in 12.7%. The submental and submaxillary lymphatic structures and the submaxillary salivary gland were removed in over one half of the cases. Of these only 16.5% proved, on microscopic examination, to have involved nodes and this number received a more complete dissection of the neck. Ninety-two percent of those showing no microscopic involvement of nodes remained well for three years or more, whereas only 45% of those with nodes involved showed 3 year cures.

In a group of 287 cases without definite clinical evidence of metastases, dissection of lymph nodes was omitted in the Mayo series because of the patient's advanced age, poor general condition, or a low grade malignancy in the

primary lesion. The neck was irradiated in some of these cases. Of this group of 287 cases 83% remained well for three years, as compared with 92% when nodes were dissected and found without microscopic involvement.

Preoperative or postoperative irradiation of the neck, using radium at a distance, or X-rays (dosage and method not full stated) was carried out in 500 cases of Figi's series. The statistical analysis shows little improvement in results for those receiving radiation, but it is pointed out that less favorable cases are those selected for prophylactic radiation, which is recommended as a valuable aid to surgery.

Fischel (5) (1935) of the Barnard Free Skin and Cancer Hospital, of St. Louis, primarily a surgeon, freely admits the curability of early cancer of the lip by radiation, and its greater conservation of normal tissue. He personally prefers the V-excision for lesions up to 1 cm., reserving radium for larger cancers. When radium is to be used he urges the inclusion of a wide margin of normal tissues and the use of large dosage applied at one sitting or within a short time.

Fischel routinely dissects out the glands of the neck. He is not convinced of the logic or efficiency of X-ray or radium for prophylaxis or cure of lymphatic glandular metastases, and believes the fractionated treatment of Coutard more dangerous than surgery. He concedes, however, that interstitial radiation of the glands, accurately and expertly applied, through a surgical approach, may be efficacious and can give marked palliation in inoperable cases. This method of handling the neck glands has been repeatedly advocated by Quicd (24-25) one time of the Memorial Hospital, New York. In 1933 Fischel (15) reported 5 year cures as follows: 90% of 40 cases without glandular involvement, and 56% cases with involved glands.

Fischel and Kennedy justify their insistence upon routine dissection of the neck by drawing an analogy with breast cancer, for which axillary dissection is accepted as essential. The comparison seems a little unfair since the two are not equally malignant or of comparable histogenesis. Analogy would seem closer with squamous carcinoma of the cervix uteri, which metastasizes somewhat tardily, and mainly to regional glands; furthermore the radical glandular dissection has largely been abandoned for cervical cancer. Neither is Kennedy entirely fair in quoting references which apply to oral cancer as a group, for the problem is not the same when considering solely cancer of the lip.

A less radical insistence upon routine neck dissection is expressed by Hyndman (12) (1933), who also favors the V excision, but without dissection of impalpable glands in early cases, and those of low grade histologic malignancy. He quotes Bloodgood as of the same conserva-

tive opinion.

From an analysis of 444 cases from the Massachusetts General and Huntington Memorial Hospitals, Boston, Lund & Holton (16) (1933) conclude that surgery is the best local treatment for small lesions, but would also approve adequate radiation, which they define as 500-1000 millicurie hours, with considerable filtration. They conceded that cases with small lesions, without deep infiltration of Grade 1 malignancy and without enlargement of glands may be safely left without neck dissection. Nearly half of their surgical cases were so left. They favor high voltage roentgen therapy (900 r) to each side of the neck following dissection. Their results have improved in later years, showing for primary cases without glands, 75% cured for 5 years, regardless of the size of the primary lesion; but only 48% of recurrent cases without glands, and only 13% of cases with established metastatic glands, were cured.

Wangensteen (28) (1933) has employed the V-excision for early primary lesions, followed by light X-ray treatment of the lip, but latterly is more inclined to employ radiation alone in adequate dosage, for the primary cancer of the lip. He strongly advocates routine neck dissection, and doubts the ability of external radiation to deal prophylactically with small glandular metastases which may be present but not palpable.

A symposium on treatment of cancer of the lip, held by a group of Australian surgeons and radiologists (9, 13, 21) (1934), shows the same divergencies of opinion as found in the current literature of this country.

One of the outstanding recent articles is that by Pfahler (22) of Philadelphia (1932) who reports on 253 private cases collected in the past 28 years. His method has been to destroy the cancer by electrocoagulation, giving no radiation locally, except in very extensive lesions, when interstitial radium has been added. This he follows by deep X-ray over the lip and chin, and submental and submaxillary region, applied according to the saturation method of his own development. When nodes are involved he supplements this by a highly filtered radium pack or radium needles in or around the glands. Of 153 cases of all types, treated more than five years ago, the absolute five year result is 85.5%. If lesions 1.5 cm. or less are considered the cure is 99%. All cases were histologically proven.

Dermatologists probably see and treat more early favorable lesions than do other specialists. Elliott (3) (1933) warns that many benign lesions are mistaken for malignant, and for this reason prefers to use a small skin punch to obtain a specimen for biopsy. (a curett can be used.) Immediately after the biopsy he treats the lesion by electrocoagulation, later by un-

filtered X-ray to the lip and X-ray treatment to the neck (both of undefined quantity.) In discussion, Taussig declared that he has abandoned radium treatment for electrocoagulation. Pusy, also discussing, speaks favorably of his early method of repeated daily applications of unfiltered X-rays until an erythema appears. He also mentions a method favored by dermatologists, that of curetting away the lesion, then treating the base with a chemical caustic, such as acid nitrate of mercury or trichloroacetic acid; this is usually followed by radiation.

The American Journal of Cancer, Jan., 1931, reports a clinic (24) on cancer of the lip, setting forth the methods used at Memorial Hospital. They advise routine biopsy and Wassermann. Their most favored method for handling the local lesion is by surface application of radon seeds of 0.3 mm. gold. These are arranged in a mold made of dentists modeling compound to fit around the cancer. The arrangement is such that each square centimeter receives 80 millicurie hours. In extensive and infiltrating growth the local lesion may receive additional gold radon implants. In a few large fungating cancers a very wide excision with immediate plastic repair is done. All cases receive an erythema dose of deep X-ray therapy to each side of the neck. When glands are palpable and hard, or palpable and do not disappear after the local lesion is healed, they are dissected out, followed by radon implants where the principal lymph channels have been severed. Fixed nodes are treated by interstitial implants into the surgically exposed nodes, without their removal. It is the belief of this group that ten erythema doses of radiation must be introduced into the metastatic glands to cause their complete regression, and that when this can be done a cure is possible. No statistics are here quoted. Duffy (1927) reported 90% cures when lymphatics were not involved.

Regaud (26) (1929) of the Curie Institute, Paris, reports the results of 112 cases treated by radium in wax molds made to fit around the lip. The neck is not dissected except when glands are present and suspected of being malignant. If histological examination shows the glands to be malignant, the operation is followed by a radium pack or mould applied to the neck. This method results in 3 year cures of 82% in operable cases, 73% in cases of doubtful operability, and 14% in inoperable cases.

Kelly, (14), of Baltimore (1933), relies on a single radium treatment of the primary cancer. He uses bulbs containing 400 to 750 millicuries of radon, filtered by 1.5 mm. brass, plus 6 mm. of felt, the average dose applied being 500 to 750 millicurie hours; occasionally gold screened needles are substituted or supplemented for deeply infiltrating lesions. He was able to cure,

for two or more years, 83% of patients with lesions not involving more than one half of the lip and having no palpable neck glands. He points out that most recurrences appear within 8 months and that deaths from other causes lower the five and ten year survival rates. When the neck glands are definitely involved, Kelly relies entirely upon external and interstitial radiation for palliation, but without expectation of cure.

Widmann (30), 1934 of the Philadelphia General Hospital, says that the primary lesion, when small and early, can be handled by a variety of methods. He favors radiation, 5 erythema doses usually proving adequate except in large infected growths which do not respond favorably even to much larger doses. Cases without glands were symptom free in 61% of instances, one to ten years. Widmann's analysis tends to confute the skepticism of many surgeons concerning the value of prophylactic radiation of the neck when glands are not enlarged. Fifty one percent of such cases later developed uncontrollable metastases when radiation was not used, whereas only 17% of 52 cases developed metastases after prophylactic radiation.

Martin (19), of Dallas Texas, (1932) is vigorous in his advocacy of X-ray treatment of the primary lesion by lightly filtered doses of 5 to 12 erythemata, supplemented at times by small platinum needles of radium. When glands are not palpable he administers a full erythema dose of deep X-ray to each side of the neck. When they are palpable and movable he has a block dissection done, leaving radium needles in the wound. When glands are fixed he relies solely on external and interstitial radiation for palliation. In the latter group he has no cures. In the group without glandular enlargement, of 108 cases he claims 96% of five year cures. He freely admits that biopsies were generally omitted, but considers the clinical diagnosis was sufficiently accurate.

At the New York State Cancer Institute, radiation by X-ray and radium, both for the local lesion and glands has been the method employed. The technique has varied greatly; the dosage employed 1914-1927 seems rather lower than advised at present. Two hundred and eighty-five cases are reported by Schreiner & Mattick (27) for this period. The absolute five year cures were only 56% for all lesions; 21% for cases with palpable nodes. These figures are not encouraging but perhaps represent more nearly the actual cure rates for the class of cases and patients which receive treatment at a state institution.

SUMMARY

Cancer of the lip is responsible for 2% or 3% of cancer deaths. It is so prominent in its location, and, compared with many other va-

ieties, it is of such low grade malignancy, that it seems incredible there should be more than a rare death from this cause. For, all reported series of lip cancer show that lesions as broad as one's fingernail are completely cured in 90% of instances by surgery, radium or X-rays. But these agencies must be employed with some degree of intelligence and skill. There is a real danger that surgeons will not remove enough of the lip and that radiation will be insufficient in amount. The number of recurrent cases attests this danger; and the patient with a recurrence has lost half or more of his chance for survival.

There is no excuse for conservative or expectant treatment of an indurated ulcer of the lip which has been present for a month.

Cancers which have grown to include more than a 2 cm. segment of the lip present a difficult problem, but locally they are usually curable. Preference for surgery, electrocoagulation, or radiation seems to safely rest upon the skill and experience of the therapist.

The proper treatment of the glands of the neck, beyond which cancer of the lip does not metastasize, remains an open question. To this reviewer it seems a too drastic measure of prophylaxis to routinely dissect out the glands which are not palpable in a case presenting early, small cancer of the lip. When the primary lesion is less favorable there is no doubt that routine neck dissection, competently performed, will eliminate a number of metastases which would otherwise develop. Dissection seems to be generally accepted as preferable when glands are already palpable, hard, but not adherent.

Radiation of the neck has a value which is not yet fully determined. As a prophylactic measure external radiation should be applied in no half hearted or trifling manner, for a relatively resistant tumor is under consideration. Perhaps prophylactic radiation should not yet be relied upon except when patients can be observed at intervals of one to three months for the first two or three years.

Radiation, both external and interstitial, combined with surgery of the neck is undoubtedly growing in favor with those of widest experience in its use.

For the hopelessly advanced case with matted, hard, cervical glands, radiation offers palliation. Such radiation may be applied as deep X-rays, radium packs, or needles or seeds implanted into and about the glands. In this way growth may be greatly retarded in late cases, but cure is hardly to be expected.

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MISSISSIPPI NEWS

Mississippi State Medical Association

DIRECTORY AND CALENDAR OF MEDICAL SOCIETIES

Information is not complete. Secretaries of societies are urged to send in full data so that it may be known when the societies of the state meet; also the names of the officers directing their activities this year should be shown.

ADAMS COUNTY MEDICAL SOCIETY: W. K. Stowers, Natchez, president; F. S. Dixon, Natchez, secretary. Meets third Tuesday each month, Natchez, 7:30 p. m.

AMITE COUNTY MEDICAL SOCIETY: D. H. Thornhill, Crosby, secretary.

CENTRAL MEDICAL SOCIETY: E. L. Walker, Magee, president; L. W. Long, Jackson, secretary. Meets first Tuesday each month, Robert E. Lee Hotel Roof, Jackson, 7:00 p. m.

CLAIBORNE COUNTY MEDICAL SOCIETY: E. P. Jones, Hermanville, president; G. W. Acker, Port Gibson, secretary.

CLARKSDALE AND SIX COUNTIES MEDICAL SOCIETY: D. O. Pierce, Jonestown, president; N. C. Knight, Clarksdale, secretary. Meets fourth Wednesday of March and second Wednesday of November, Elks Club, Clarksdale, 2 p. m.

CLARKE-WAYNE COUNTIES MEDICAL SOCIETIES: W. P. Gray, Waynesboro, president; Albert Hand, Shubuta, secretary.

COAHOMA COUNTY MEDICAL SOCIETY: J. A. Slack, Friars Point, president; N. C. Knight, Clarksdale, secretary. Meets second Wednesday each month, Clarksdale Hospital, 1:30 p. m.

DELTA MEDICAL SOCIETY: J. W. Lucas, Moorhead, president; F. M. Acree, Greenville, secretary. Meets second Wednesday of April and October. Rotates through five counties, 2 p. m.

DESOTO COUNTY MEDICAL SOCIETY: A. J. Weissinger, Hernando, president; L. L. Minor, Route 4, Memphis, secretary. Meets first Monday of January, April, July, October, Hernando, 10 a. m.

EAST MISSISSIPPI MEDICAL SOCIETY: C. H. Gully, DeKalb, president; T. L. Bennett, Meridian, secretary. Next meeting, Meridian, March 5, 1936.

FRANKLIN COUNTY MEDICAL SOCIETY: L. Costley, Meadville, secretary.

HANCOCK COUNTY MEDICAL SOCIETY: A. P. Smith, Bay St. Louis, secretary.

HARRISON COUNTY MEDICAL SOCIETY: H. K. Rouse, Lyman, secretary.

HOMOCITTO VALLEY MEDICAL SOCIETY: Lucien S. Gaudet, Natchez, president; W. K. Stowers, Natchez, secretary. Meets January, April, July and October, 2 p. m.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY: T. P. Sparks, Jr., Vicksburg, president; Leon S. Lippincott, Vicksburg, secretary. Meets second Tuesday each month, Elks Club, Vicksburg, 7 p. m.

JACKSON COUNTY MEDICAL SOCIETY: W. J. Weatherford, Pascagoula, president; R. G. Lander, Pascagoula, secretary. Meets second Thursday of March, June, September and December, Jackson County Hospital, Pascagoula 7:00 p. m.

JEFFERSON COUNTY MEDICAL SOCIETY:

W. T. Harper, Fayette, secretary.

NEWTON COUNTY MEDICAL SOCIETY: W. T. Pennington, Decatur, president; Dudley Stennis, Newton, secretary.

NORTH MISSISSIPPI MEDICAL SOCIETY: R. G. Grant, Holly Springs, president; A. H. Little, Oxford, secretary. Next meeting Holly Springs, April 15.

NORTHEAST MISSISSIPPI 13 COUNTIES MEDICAL SOCIETY: Z. A. Dorsey, Troy, president; A. J. Stacy, Tupelo, secretary. Next meeting Starkville, March.

PIKE COUNTY MEDICAL SOCIETY: J. L. Bauer, McComb, president; Elise Rutledge, McComb, secretary. Meets first Thursday each month, McComb, 6:30 p. m.

PONTOTOC COUNTY MEDICAL SOCIETY: L. O. Carruth, Tupelo, R.F.D., president; O. F. Carr, Pontotoc, secretary. Meets first Tuesday each month, Pontotoc.

SOUTH MISSISSIPPI MEDICAL SOCIETY: J. Gould Gardner, Columbia, president; F. T. Bower, Hattiesburg, secretary.

STONE COUNTY MEDICAL SOCIETY: Meets with Harrison-Stone-Hancock Counties Medical Society.

TATE COUNTY MEDICAL SOCIETY: W. D. Smith, Senatobia, president; J. Sidney Eason, Coldwater, secretary. Meets second Wednesday each month, Senatobia.

TRI-COUNTY MEDICAL SOCIETY: H. R. Fairfax, Brooklyn, president; R. B. Zeller, Hazlehurst, secretary. Meets second Tuesday of March, Copiah-Lincoln Junior College, Wesson; June, Walthal Hotel, Tylertown; September, Riverside Hotel, Monticello; December, Whitworth College, Brookhaven 12:30 p. m.

WILKINSON COUNTY MEDICAL SOCIETY: E. M. Butlr, Centreville, secretary.

WINONA DISTRICT MEDICAL SOCIETY: P. B. Brumby, Lexington, secretary.

MISSISSIPPI HOSPITALS—CALENDAR STAFF MEETINGS

ANDERSON INFIRMARY: Second Friday, each month, 6:00 p. m.

BILOXI HOSPITAL: First Friday, each month, 7:30 p. m.

CLARKSDALE HOSPITAL: Second Wednesday, each month, 1:30 p. m.

GEORGE C. HIXON MEMORIAL HOSPITAL: First Monday, each month.

GREENWOOD LEFLORE HOSPITAL: Second Monday, each month, 8 p. m.

HOUSTON HOSPITAL: Last Thursday, each month, 7:30 p. m.

JACKSON COUNTY INFIRMARY: Second Thursday, each month except July and August, 7:00 p. m.

JACKSON INFIRMARY: Last Tuesday, each month, 6 p. m.

MERIDIAN SANITARIUM: Second Thursday, each month, 6:30 p. m.

MISSISSIPPI BAPTIST HOSPITAL: Third Tuesday, each month, 6:30 p. m.

NATCHEZ SANATORIUM: Second Tuesday, each month, 7:30 p. m.

NORTHEAST MISSISSIPPI HOSPITAL: First Monday, each month, 7:30 p. m.

RUSH'S INFIRMARY: Second Thursday, each month, 7:00 p. m.

SOUTH MISSISSIPPI INFIRMARY: Last U. S. VETERANS HOSPITAL, GULFPORT: Every Monday, Tuesday, Wednesday and Thursday, 10:45 a. m.

VICKSBURG HOSPITAL: Second Thursday, each month, 7 p. m.

VICKSBURG INFIRMARY: First Wednesday, each month, 7 p. m.

VICKSBURG SANITARIUM: Tenth, or week of tenth, each month, 6:30 p. m.

WINONA INFIRMARY: First Thursday, each month, 7:30 p. m.

WHERE ARE THEY?

The county editors of the following counties have not been heard from since "The Mississippi Doctor" became the official publication of the Mississippi State Medical Association:

Alcorn, Attala, Benton, Bolivar, Calhoun, Carroll, Choctaw, Claiborne, Clark, Clay, Copiah, Covington, Forest, George, Green, Grenada, Hancock, Harrison, Hinds, Holmes, Humphreys, Issaquena, Ittawamba, Jackson, Jasper, Jefferson, Jefferson Davis, Jones, Kemper, Lauderdale, Lawrence, Leake, Lee, Lowndes, Madison, Marion, Marshall, Montgomery, Neshoba, Noxubee, Oktibbeha, Perry, Pike, Prentiss, Quitman, Rankin, Scott, Sharkey, Simpson, Smith, Stone, Tate, Tippah, Tunica, Union, Walthall, Wayne, Yalobusha, Yazoo.

Fifty-nine of eighty-two. WHY?

LET'S GET BEHIND OUR JOURNAL.

The statement sometimes made that doctors die young is not altogether borne out by the figures for 1935 recently compiled by the Mississippi State Board of Health. Of the 45 doctors dying during the year, only two were under 40 years of age, 36 and 39 years of age respectively; and only six were from 40 to 49 years of age. Seven were from 50 to 59 years of age, 14 from 60 to 69, 10 from 70 to 79, four from 80 to 89, and two were 90. Thirty or 67 per cent were 60 years of age or older and 16 or 36 per cent had reached the "three score years and ten" mark or higher.

The causes of death given and the incidence of each were as follows:

Heart disease	12-26.7%
Heart and kidney disease	6-13.3%
Kidney disease	4- 8.9%
Cancer	4- 8.9%
Pneumonia	4- 8.9%
Automobile accidents	3- 6.7%
Unknown	3- 6.7%
Senility	2- 4.4%
Apoplexy	1- 2.2%
Duodenal ulcer	1- 2.2%
Hypertension and nephritis	1- 2.2%
Suicide	1- 2.2%
Septic thrombosis and pyemia	1- 2.2%
Heart and hypertension	1- 2.2%
Burn	1- 2.2%

Heart, kidney and blood vessel diseases combined accounted for 25 deaths or 55.5 per cent.

PROPOSED LEGISLATION

From Legislative Bulletins No. 32, 33, and 34 of the Legislative Reference Committee of the American Hospital Association.

MISSISSIPPI

Governor Hugh L. White in his inauguration address made the following statement in regard to hospitalization:

"It should be the responsibility of the state to provide charity wards in all approved local hospitals in towns and cities where no charity hospital is now maintained, whenever those needing such care are unable to defray the expense incident to the treatment required."

NEW YORK

A. 22. Introduced by Cavinato. Requires medical examination and x-ray of chest for tu-

berculosis before admitting students to state normal schools and teachers' colleges.

A. 23. Introduced by Cavinato. Health Examination. To provide for a chest examination of pupils in public schools.

S. 442. Introduced by Nunn. Labor Law—Hospital Employees Hours. Adds new Sec. 188 to 193, Labor Law, by providing no employee of any hospital shall be required to work more than eight hours a day or 48 hours a week.

RHODE ISLAND

S. 27. Introduced by De Pasquale. Providing a lien for the value of services rendered by any physician, nurse, dentist, or hospital in the treatment or care of any person injured through the fault or neglect of another; defining the manner of perfecting such lien and providing to what it shall attach and the liability thereupon.

MASSACHUSETTS

H. 59. An act defining stillbirths. "A still-born child shall be deemed to be a foetus born after a period of gestation of not less than five months, in which foetus there is no attempt at respiration, no action of heart and no movement of voluntary muscle."

NEW YORK

It is very interesting to note that, with the exception of names used for designating the governing body and officials, practically the identical bill to the following was introduced in the Rhode Island legislature under date of January 17. It would appear that there is a concerted effort to have this type of bill introduced in the legislatures of all states.

S. 503. Introduced by Mandelbaum. An act to provide for the establishment and administration of a system of health insurance. Referred to Insurance Committee.

This bill covers all employees earning \$60.00 a week or less; all types of employment, public and private, are included.

The employer is to pay premiums ranging from 3½ to 1½ per cent of total wages varying according to a weekly wage rate; employees to pay from 3 to 1 per cent varying as above, and the State to pay from general taxes funds 1½ per cent of the total wages paid by the employer.

The cash benefits are at the rate of 50 per cent of the employee's full-time wage, not to exceed a maximum of \$15.00 per week (additional allowance is made for wife and other dependents) and extend not to exceed 156 days. Benefits paid on disability because of sickness or injury causing inability to work.

Maternity benefits are allowed for employed women commencing six weeks before birth of child and continuing six weeks thereafter. Women employees, wives of employees, and widows are allowed \$15.00 upon birth of child.

VIRGINIA

H. 134. Introduced by Venable. To amend Sec. 1553 of the Code of Virginia to read:

"The board of supervisors of any county and the council of any city shall appropriate a sum sufficient for the care and treatment of any person of such county or city who has been bitten by or in contact with an animal suspected of having rabies or hydrophobia upon the recommendation of the local health officer or the State Health Department. Any such injured person as aforesaid may be sent to any hospital or sanatorium either within or without this State, at the discretion of the local board of health or the State Department of Health, to remain such time as said board

or State Department of Health may determine."

KENTUCKY

H. 118. Introduced by Fitzpatrick. Makes it the duty of the coroner to investigate the death of any one who has died without the attendance of a qualified physician, by violence or otherwise, and requires that the coroner be notified in case of such death.

MISSISSIPPI

S. 123. An act to repeal the tax upon the privilege of engaging in certain businesses.

HCR. 13. Introduced by Waits. Gross Income Tax. To provide that the legislature may levy gross income and gross sales tax.

H. 164. Introduced by Wright and Gore. An act to repeal the Emergency Revenue Act of 1934.

H. 213. Introduced by Robinson and Gore. State Hospital Commission. Creating a State Hospital Commission

H. 217. Introduced by Robinson. Care of Indigent Sick. To provide for the care of indigent sick who are unable to pay.

H. 217. Introduced by Montgomery. Sales Tax. Amending Sec. 13-a. Chapter 119, Laws of 1934, levying a 5 per cent sales tax.

VIRGINIA

S. 151 (Same as H 234). Introduced by Coleman. Hospital Lien. To amend and re-enact an act entitled "An Act to create a lien in favor of hospitals," etc., so as to include doctors and registered nurses within the provisions of said act.

MISSISSIPPI STATE BOARD OF HEALTH

Since Jan. 1, 1936, the following physicians have obtained temporary license to practice medicine in Mississippi until the meeting of the State Board of Health in June, 1936, when examinations will be held and applications for permanent license will be passed on:

Dr. Byron Alexander, Electric Mills, on basis of reciprocity with Tennessee.

Dr. Guy T. Vise, Meridian, on basis of application for examination.

Dr. L. L. Terry, Macon, on basis of reciprocity with Alabama.

Dr. Chas. Frank Lacey, Thomastown, on basis of application for examination.

Dr. Robert Spicer McDavid, Clarksdale, on basis of reciprocity with Tennessee.

The State Board of Health wishes to express sincere appreciation for the information which has been given in response to the request recently sent out asking for information about physicians whose present addresses are not now available. It has been possible to put up-to-date addresses on many cards and to close files for many physicians who are dead. We hope the replies will continue to come in until the entire list of about three hundred names is cleared up.

On Tuesday, Feb. 4, the Committee on Public Policy and Legislation of the State Medical Association met in Jackson for a conference relative to legislation pertaining to medicine and health to be considered at the present session of the Mississippi Legislature.

Recent out-of-town visitors to the State Board of Health were:

Mr. C. Heard Field, United States Public Health Service, Washington.

Mr. James E. Sidel, National Child Labor Committee, Washington.

Dr. James Wallace, Filed Representative, American Public Health Association, New York City.

Mr. Charles L. Hodge, U. S. Department of Labor, Washington.

Miss Mary Irene Atkinson, Children's Bureau, Washington.

Dr. W. K. Sharp, U. S. Public Health Service, Washington.

Miss Barbara S. Quin, Assistant Director, The Commonwealth Fund, New York, N. Y.

Mr. Barry C. Smith, Director, The Commonwealth Fund, New York, N. Y.

Dr. Clarence L. Scamman, Director Division of Public Health, The Commonwealth Fund, New York.

Geddes Smith, representative of the Commonwealth Fund spent several days in Mississippi the first week of February with Dr. Maxwell E. Lapham who is conducting lecture courses on obstetrics.

FELIX J. UNDERWOOD,

State Health Officer.

Jackson.

COUNTY REGISTRAR SYSTEM

The County Registrar System in Mississippi was begun as an experiment March 1, 1935, with three counties in North Mississippi, namely Benton, Tiptah and Union. Within a month or two it was very evident by the showing made that many other counties could well be placed under the same system of registration. From time to time various counties have been selected throughout the state for the single registrar plan, and by the first of Jan. 1936, 62 of the 82 counties had been changed to the single registrar system, with the exception that in a few of these counties it was necessary to retain a local registrar in a given spot, or perhaps to have two registrars in counties with two court districts. Having only one registrar of vital statistics in a county simplifies birth and death registration to a remarkable extent, especially with physicians, undertakers, and the central office. Of course, there are circumstances where births occur without any supervision of midwives or doctors, or where deaths occur and the body is buried in homemade coffins, under which circumstances it is hard for a county registrar to obtain full registration. Yet, this same difficulty was always present under the local registrar set-up, especially when such events occurred several miles distant from local registrars.

When a doctor knows that he can report once a month to only one person the births he has attended during the month, or an undertaker knows that he has only one person to whom he should send his certificates for a whole county, then the system recommends itself very clearly.

There was always great confusion, and even loss of many certificates, when there were anywhere from 10 to 25 men and women in each county serving as registrars. Conditions are entirely different at this time from what they were when the registration law was passed in the year 1912. At that time we had no roads, scarcely any automobiles, and many doctors lived in rural districts. There were few undertakers in 1912, as compared to the number now operating in Mississippi. But now we have conditions very favorable for one registrar to attend to all the birth and death registration in a county. Even in Hinds County with a large population and the largest city in the state, we find one registrar serving with much greater efficiency than was the case with a dozen or more under the old system.

HEALTH SYLLABUS .

For many years teachers, club women and others have been making requests to the State Board of Health for material to use in connection with health studies and various programs. Available bulletins about individual diseases were sent, but finally the **Health Syllabus** was prepared and is now being distributed.

Copies of the syllabus have been mailed to school superintendents, to county superintendents of education, county health officers, newspapers, members of the legislature, and others who feel more or less interested in the public health work in the State of Mississippi.

Many complimentary letters have been received from various individuals and hundreds of copies of the bulletin have already been dispatched to people throughout the state who are particularly interested in and have requested supplemental material for teaching health.

The syllabus was prepared especially for the understanding of school children and is written in as simple language as possible and is illustrated with appropriate pictures.

This Syllabus was prepared with the special view in mind, also, of educating our citizens about the organization of health forces of the state, and the special procedures that are followed through this organization in the efforts that the State Board of Health is making to eradicate communicable diseases. In addition, many of the common causes of death in Mississippi are discussed in such a way as to give the reader practical information on the cause and prevention of such conditions. It is believed that many physicians in Mississippi will find the booklet of interest to them and their patients. Write for a copy. Throughout the Syllabus the importance of having periodic medical and dental care is stressed.

FELIX J. UNDERWOOD,
Executive Officer.

Jackson.

TUBERCULOSIS DIAGNOSTIC CLINIC

Dr. W. D. Hickerson, field clinician for the Mississippi State Sanatorium, conducted the annual diagnostic clinic at the offices of the Warren County Health Department, Monday and Tuesday, Feb. 17 and 18.

All physicians of Vicksburg and Warren County were invited to send tuberculosis contacts and suspicious cases, especially among children and young adults, for X-ray and physical examinations. Reports were made to the physicians referring patients. Physicians were also invited to attend the clinic for personal observations and consultations.

Much good should result from this service especially in early recognition of tuberculosis.

FELLOWSHIPS

At a recent meeting of the Committee on Fellowship Awards of the Commonwealth Fund, fellowships were granted to the following Mississippi physicians:

Dr. A. C. Covington, Marks; Dr. J. Jamaes, Ackerman; Dr. J. L. Nichols, Alligator; Dr. S. L. Pharr, Booneville; Dr. T. M. Riddell, Swifftown; Dr. W. E. Seale, Crenshaw; Dr. A. H. Smith, Sumner; Dr. E. B. Young, Vardaman; Dr. W. M. Coursey, Raleigh; Dr. C. W. Emerson, Hernando; Dr. A. L. Gregory, Saltillo; Dr. J. J. Kazar, Tchula; Dr. S. T. McIlwain, Batesville; Dr. R. B. Ray, Kosciusko; Dr. C. M. Speck, New Albany; Dr. C. S. Wilson, Cry-

tal Springs.

Each award is for three months study in the Graduate School of Medicine, Tulane University. Some began in January, 1936 and some in February. A fellowship provides \$250 a month plus tuition and travel expense to and from New Orleans. There is no requirement of the physician afterward except a report of the study course. The purpose of these awards is to give "brush-up" courses to physicians in rural areas, the benefits of which, in turn will be passed on to the rural population of the State.

Under the Commonwealth Fund plan of cooperation with the Mississippi State Board of Health the fellowships are provided. Since the beginning of this cooperative program, seventy-three physicians have already been given opportunity for graduate study. Including the sixteen awards for this year, the total is now eighty-nine.

Through this same plan of cooperation, the Commonwealth Fund awards scholarships each to students for the study of medicine. Each scholarship pays \$1000 a year and the Fund has arranged to equip the physician's office when he is ready to begin practice of medicine. Dr. C. C. Bass of Tulane, is chairman of the Committee of awards. The first one to finish the four-year-course and finish internship is Dr. Edwin M. Meek who is locating at Glendora.

CENTRAL MEDICAL SOCIETY

A monthly meeting of the Central Medical Society was held at the Robert E. Lee Hotel, Jackson, Tuesday night, Feb. 4, at 6 p. m. The program as announced by Dr. L. W. Long, secretary, was as follows:

SUPPER

CASE REPORTS

Dr. R. W. Hall—"Acne," with cases presented, 10 minutes.

Dr. J. K. Bullock—"Tubercular Enteritis," 10 minutes. Discussion: Dr. T. E. Wilson, 5 minutes.

Dr. L. B. McCarty—"Ovarian Cyst Complicated by Pregnancy," 10 minutes. Discussion: Dr. W. F. Hand, 5 minutes.

PAPER

Dr. N. E. Applewhite—"Some Phases of Peroral or Endoscopy," 10 minutes. Discussion: Dr. G. E. Adkins, 5 minutes.

We have to date paid up 162 members with one associate member.

Get the stragglers in the fold in your neighborhood.

IMPORTANT: Meeting of Executive Committee at 5 p. m., before the meeting.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

A regular monthly meeting of the Issaquena-Sharkey-Warren Counties Medical Society was held at the Elks Club, Vicksburg, Tuesday, Feb. 11, with Dr. T. P. Sparks, Jr., president, presiding and sixteen members present. Guests included Dr. Lucien S. Gaudet, Natchez; Dr. Homer Whittington, Natchez; Dr. W. B. Dobson, Jackson; Dr. F. D. Hollowell, Jackson and Dr. John M. Whitney, Vicksburg.

After a supper served at 7 p. m., the following program was presented:

SUBJECT: Eye, Ear, Nose and Throat—Dr. E. H. Jones, Vicksburg, Chairman.

1. Primary or Secondary Mastoiditis—Dr. Lucien S. Gaudet, Exchange Essayist from the Homochitto Valley Medical Society. Discussed

by Drs. W. B. Dobson, T. P. Sparks, Jr., G. C. Jarratt, and E. H. Jones. Dr. Gaudet closed.

2. Hoarseness—Dr. Hugh H. Johnston, Vicksburg. Discussed by Drs. F. D. Hollowell, E. H. Jones and S. W. Johnston. Dr. Johnston closed.

3. Diagnosis of Sinusitis—Dr. Edley H. Jones. Discussed by Drs. H. H. Johnston, and W. E. Johnston. Dr. Jones closed.

Proposed legislation for the control of rabies was presented by Dr. F. M. Smith for the Committee on Public Health and Legislation and was endorsed by the Society.

Dr. F. M. Smith, for the Committee on Public Health and Legislation reported an investigation of the sale of certain drugs and the matter was referred to the secretary of the State Medical Association.

The North Mississippi Medical Society accepted an invitation to exchange essayists and Dr. J. A. K. Birchett, Jr., Vicksburg, was selected to present a paper at the meeting of the North Mississippi Medical Society at Holly Springs, April 15.

The next meeting of the Society will be held Tuesday, March 10. The subject will be obstetrics and gynecology and the committee in charge is Drs. I. C. Knex, chairman, G. M. Street, J. A. K. Birchett and R. A. Street, Jr.

LEON S. LIPPINCOTT, Secretary

ADAMS COUNTY

The ladies of the Auxiliary to the Homochitto Valley Medical Society paid a beautiful tribute to the doctors of the Society Jan. 15, which had been set apart as "Doctor's Day."

A good number met at the home of Dr. and Mrs. W. K. Stowers, on Clifton Ave., at 7:30 p. m. at the request of the ladies, and they served a delicious spaghetti supper, in the spacious rooms of the Stowers home.

This was a splendid and brilliant social gathering and the tables were beautifully decorated with japonicas and red candles in silver and gold candelabra.

Senator James C. Rice was toastmaster, and in his usual masterful way, thanked the ladies for their presence and entertainment and expressed the appreciation of the doctors for this gathering in their honor.

The guests departed at a late hour after much merriment, and a delightful evening with such genial hosts as Dr. and Mrs. Stowers always are. May the Doctor's Day entertainment continue throughout the years to come, in all the land.

Dr. and Mrs. Homer Whittington celebrated the doctor's birthday by having a few guests present for a delightful supper in the evening hours. Here's wishing you many more happy years, Doctor.

It is sincerely hoped at this writing that our dear and good friend Dr. Bryan of Amory, is much improved.

Dr. and Mrs. Philip Beekmai visited in New Orleans recently. The doctor has been confined to his home the last few days, as he is indisposed.

Mrs. Francis Dixon is spending a while with her parents in New Orleans. The genial Dr. Francis motors down to visit her ever so often.

LUCIEN S. GAUDET,

County Editor

Natchez.

AMITE COUNTY

Thursday, Feb. 13th, at seven-thirty Amite and Wilkerson Counties held a joint meeting

of their medical societies. Meeting place is Fields' Hospital, Centerville. A lovely dinner is served the doctors under the supervision of the very able Supt. of Nurses of Fields' Hospital. Our program is enjoyed together, then we hold separate business sessions. These meetings mean a great deal to us from the standpoint of fellowship and scientific discussions. We all look forward to them.

Sympathy is extended to Dr. and Mrs. Paul Jackson of Liberty, Miss., over the loss of their infant daughter.

We are glad to be able to report Dr. H. L. Lewis of Street Miss., as able to attend to his practice again after a rather serious operation at Fields' Hospital in Centerville.

The oldest member of our medical society, Dr. W. R. Brumfield of Gloster, is a member of our state legislature. He is busy with affairs in Jackson at present. We miss him in our local meetings.

Dr. Chas. H. Butler of Smithdale, is resuming practice again after more than a year of retirement because of health. We are delighted that Dr. Butler's health has improved to the extent that he can again become active.

Mrs. C. W. Stewart, wife of Amite County's Health Officer has just returned from a three weeks' visit in Washington, D. C. While visiting her son, Kenneth, who is a student at George Washington University, she enjoyed the beauties of the Capitol City—in snow.

Amite County is glad to welcome Dr. Harrison Butler who has recently opened an office in Liberty. Dr. Butler was formerly an Amite County boy.

DR. C. W. STEWART, President

DR. D. H. THORNHILL, Secretary
Gillsburg.

CHICKASAW COUNTY

The senior class of the University of Mississippi Medical School was a guest at the Houston Hospital on Jan. 16 for the second of a series of clinics. During the day ten cases representing some of the more common types of cardiac diseases were demonstrated, including rheumatic heart disease, hypertensive heart disease, syphilitic heart disease with aortic regurgitation, and angina pectoris. In addition a case each of ruptured duodenal ulcer and pulmonary tuberculosis was shown.

The Chickasaw County medical profession is welcoming Dr. S. K. Gore, formerly of Mantee, Webster County, who has recently located in Houston with offices in the Houston Drug Store building. Dr. Gore is well known in this county both for his personal integrity and for his professional ability, having been located adjacent to this county for a number of years.

Dr. J. Rice Williams attended the meeting of the Masonic Grand Lodge at Jackson the first part of the week in the affairs of which he has been prominently identified for many years. He is one of the most universally known Masons in the state, having held many state offices in the Lodge, including that of Grand Master and of Grand Lecturer, which office he now holds with distinction.

Drs. V. B. Philpot, J. M. Hood, G. G. Armstrong, Douglas D. Baugh and J. Rice Williams are among the Chickasaw County doctors attending the Mid-South Post Graduate Medical Assembly in Memphis this week.

The January meeting of the Houston Hospital Staff was postponed on account of the inclement weather until the regular time in this month, which falls on the evening of

Feb. 27. An attractive program has been arranged.

DOUGLAS D. BAUGH,
County Editor

Houston.

DESOTO COUNTY

After the 52nd annual meeting of the Mid-South Medical Assembly, Feb. 11-14, we are eagerly looking forward to the meeting in Greenville of the Mississippi State Medical Association during the merry month of May. Greenville is a splendid city and the doctors there are of a choice lot.

The weather that we are having is distinctive wintry and we think, aye we know, that we will enjoy genuinely the "good old summer time" again.

Howbeit our doctors are carrying on in all kinds of weather and often under most adverse conditions.

Dr. David L. Farley of Philadelphia, Pa., one of the essayists at the Mid-South Medical Assembly is a native of this county. He is assistant professor of medicine at the University of Pennsylvania, etc. Dr. Farley was born in 1890 and is well remembered by many in the county. He has deservedly won a high place in the medical profession.

L. L. MINOR, County Editor.
Station G, Rt. 4., Memphis, Tenn.

LEFLORE COUNTY

Dr. Tate Carl, Greenwood, has been appointed resident surgeon at the General Hospital, Memphis, Tenn.

Mrs. Margaret Bates Cunningham, Greenwood, wife of Dr. H. G. Cunningham, dentist if this city, and daughter of Dr. and Mrs. J. P. Bates, died at her home here Jan. 8.

Dr. L. B. Otken, Greenwood, visited Clarksdale Jan. 5.

Dr. A. D. Chester, Cruger, had a patient in the Greenwood Leflore Hospital Jan. 6 to 12, whom he visited daily.

Dr. John D. Rudisill, Lenoir, N. C., visited in the home of his sister Mrs. J. C. Lore, in this city Jan. 7 to 10.

Dr. and Mrs. L. B. Otken, Greenwood, and Dr. Edgar Giles, Avalon, visited Jackson, Jan. 8.

The course in obstetrics, given by the Committee on Postgraduate Medical Education through the collaboration of the Mississippi State Medical Association, the Mississippi State Board of Health, the Commonwealth Fund, and Tulane University Graduate School of Medicine, was begun in Greenwood, Jan. 9, with a good attendance. Dr. W. E. Lapham in charge will deliver a series of 10 lectures.

Dr. W. D. Wilson, Schlater, who had been sick for some time, is able to be out.

Dr. B. F. McNeal, Moorhead, and Dr. W. M. Merritt, Boyle, were in Greenwood, Jan. 16 at the banquet given to the visiting Boy Scouts executives of the Delta.

Dr. E. R. Meek, formerly of Clay County, recently of Baltimore, Md., where he served his internship at the City Hospital, was a visitor with his wife, in the home of Mrs. Meek's mother, Mrs. May Johnson at Morgan City. They also visited relatives in Greenwood while in the county. The doctor has decided to locate in Glendora to practice his profession. We welcome him to the Delta.

Dr. T. B. Holloman, Itta Bena, has moved to Thornton. We are sorry to lose Dr. Holloman from our county and hope he will do well in

his new home.

Dr. W. E. Noblin, Jackson, visited Greenwood Jan. 28.

W. B. DICKINS,
County Editor

Greenwood.

PONTOTOC COUNTY

Pontotoc County Medical Society met in regular session Tuesday, February 4th, with nine physicians present.

We are glad to report Dr. J. D. Neel gradually recovering from his automobile accident.

Several of our county physicians are planning to attend the Mid-South Post Graduate Assembly at Memphis this week.

The Pontotoc County physicians have been rather busy. The principal sickness is flu and pneumonia.

R. P. DONALDSON,
County Editor

Pontotoc.

TALLAHATCHIE COUNTY

We have been so snowed under for the last month until we have been able to peep out but very little. When subzero weather hits us Mississippians we don't know what to do but crawl into our dens. Since I have my apartments in the hospital and do no outside work I have fared better than the general practitioner. The general practitioners of this county have been kept busy looking after influenza and pneumonia cases.

The Tallahatchie County Medical Society postponed its regular monthly meeting on account of the snow and slippery roads.

The lectures given by Dr. Lapham on obstetrics, fostered by the State Medical Association and the Committee on Postgraduate Medical Education, are very instructive and are being fairly well attended by the doctors of this county. Dr. Lapham is well versed on obstetrics and I am sure his lectures will be of lasting benefit to our doctors.

Several physicians, of this county, expect to attend the sessions of the Postgraduate Medical Assembly, which convenes in Memphis this week, a fine program is outlined, which will be enjoyed by all who attend. Every physician of the state should make an effort to attend this assembly.

If all the ex-service men, who receive their bonus pay the doctors and hospital bills, we will be able to go to town, this summer and buy a new suit and pair of shoes. Here's hoping that they receive it and that they use it for the right purposes. I feel sure that many of them will do this.

Tallahatchie County, which for the last few winters has suffered from high water in the Tallahatchie basin, has been free from water up to the present time but the heavy rains and snows are rapidly swelling the streams and it looks as though we are in for another overflow, which will, no doubt, cover a large area of farm lands which will be inundated up to late spring.

Hurrah for "The Mississippi Doctor." It is measuring up to all expectations, it is neatly edited, has plenty of interesting reading and promises to be as good as any state medical journal printed. Every physician in the state should cooperate with the staff in making it better with each edition. Cooperation is what makes any undertaking a success. Let all physicians who are not members of the State

Medical Association send in their dues for membership which includes the journal. If you can't do that subscribe for the journal.

J. W. MOODY, County Editor
Charleston.

TISHOMINGO COUNTY

Dr. R. J. Brown has been confined to his room for two or three weeks on account of influenza.

Dr. James P. Walker, Lambert, and family have returned home after quite a lengthy stay in Iuka.

We learn that Dr. C. Cromeans, is sick of pneumonia and the other two doctors, McRae and Johnson, are very busy looking after the sick.

Miss Gloria Brackstone, sister of Dr. Leroy Brackstone, is visiting in Iuka this week-end.

Dr. K. F. McRae, Belmont, and Dr. N. C. Waldrep, Tishomingo City, paid Iuka a visit this week.

Dr. and Mrs. T. P. Haney, Sr., recently visited their son Dr. T. P. Haney, Jr., at McComb and daughters at Leland, Oxford and Corinth, and really enjoyed the four visits.

It certainly is a pleasure to see a copy of "The Mississippi Doctor" on so many doctors' desks in my county—they say it is a good journal.

T. P. HANEY, CR., County Editor.
Iuka.

WARREN COUNTY

We have been advised that Jack Ewing, Jr., son of Dr. and Mrs. J. S. Ewing of this city, was slightly injured in an automobile accident occurring near the campus of the University of Virginia, was out riding and it "just happened." We rejoice with Dr. and Mrs. Ewing that Jack, Jr. was not seriously hurt.

It is mighty fine to write that Dr. Charlie Edwards, who has been quite sick recently is now very much improved and is able to return home from the local hospital where he was under solicitous and apprehensive care for some two weeks.

An old English writer wrote, "Take heed, Camilla, that seeking all the woods for a straight stick, you chuse not at the last a crooked staffe." We think no such admonition was befitting for Miss Dorothy Kayser, who in the month and in this city, was wed to Dr. Dan Provine of Tallulah, La. The search was not long nor is there any question about Doctor Dan being anything other than a straight and dependable sac, from a worthy stock of Mississippians well known and renowned.

Dr. G. W. Gaines, Tallulah, La., following his annual fishing trip in Florida, spent some ten days in a Vicksburg hospital presumably recuperating from the arduous sport of "reeling them in." However, madam rumor says he wasn't sick, just a ruse to take more time for telling in detail the embryo-medico fishermen of this city just how it was done.

The Issaquena-Sharkey-Warren Counties Medical Society did a mighty commendable and deserving thing at its last meeting, when it sent expressions of appreciation and concern to Dr. J. W. Barksdale, who was acutely ill in the Jackson Infirmary. Dr. Jack has contributed much to medicine in Mississippi and the South. We believe when the general assizes computing Mississippi's great is held, that our Dr. Jack will be placed high or fore-

most on the scroll of the state's famous surgeons. Someone has said that fame is an echo of worthy actions, differing in that an echo repeats only the last part, while fame relates all, yet we doubt if fame will ever truly relate all of a famous doctor or surgeon.

The Issaquena-Sharkey-Warren Counties Medical Society held its monthly meeting Feb. 10. The guest essayist, Dr. L. S. Gaudet, was an exchange speaker from the Homochitto Valley Medical Society. The doctor brought a most interesting and instructive paper on mastoid conditions.

There were two other most welcome visitors or guests from our Capitol City and the Central Medical Society, Drs. W. B. Dobson, and F. D. Hollowell. Dr. Dobson and the writer had a good many things in common in the earlier days, and in the latter days they still have one thing in common, "a haunting memory." However, we think our old friend "Dob" is a "mighty" good pattern for real men to measure by.

DR. H. T. IMS, County Editor.
Vicksburg.

WASHINGTON COUNTY

Dr. R. A. Haggard, Arcola, has as his guest his brother from Norfolk, Va.

Dr. and Mrs. J. S. Sanders, Leland, were among those who attended the inauguration in Jackson. Dr. Sanders has the honor of being Colonel Sanders on Governor White's staff.

Dr. L. C. Davis and son, Leon Curtis, and Mr. Lewis Davis, Greenville, enjoyed a hunting trip near Jackson. Mrs. L. C. Davis and Mrs. Lewis Davis visited relatives in Greenwood.

Dr. and Mrs. Virgil Payne and two daughters, Pine Bluff, Ark., spent the week-end with Mrs. A. G. Payne, Greenville.

Dr. H. A. Gamble, Greenville, was in Jackson recently on business. Among the many delightful social courtesies extended Mr. and Mrs. Rhea Black and Mr. Tom Settle of Bluefield, W. Va. during their visit with Dr. and Mrs. T. B. Lewis, Greenville, none have been lovelier than the dinner party given in their honor by Mr. and Mrs. Frank England.

Mr. and Mrs. Rhea Blake and Mr. Tim Settle, Bluefield, West Va., guests of Dr. and Mrs. T. B. Lewis, Greenville, were recipients of a delightful courtsey when Mr. and Mrs. C. H. Fullerton entertained at bridge at their suburban home.

Dr. and Mrs. D. C. Montgomery, Montbury, Greenville, had as their house guest Mrs. Montgomery's sister, Mrs. John Bhllington, Memphis.

The many friends of Mrs. Paul Gamble, Greenville, are delighted to know that Mrs. Gamble has completely recovered from a recent illness.

Dr. and Mrs. J. C. Pegues, Greenville, had as their house guest Miss Grace Leigh Scott, Greenville, Ind. Miss Scott is a national officer of the W. C. T. U. She is making a tour of the South in the interest of character building and morality.

Dr. T. L. Dobson, Leland, has completed a postgraduate course at Tulane, and has resumed his practice again.

Members of the Washington County Board of Supervisors were guests of Dr. and Mrs. C. P. Thompson, Greenville, for dinner at the Thompson home on the old Leland road.

The many friends of Dr. and Mrs. J. A. Beals, Greenville, regret to learn of Mrs. Beals' recent attack of flu. Mrs. Beals was confined

to bed for two weeks but is now able to be out again.

Mrs. J. A. Johnson, Merigold, who was quite ill at the King's Daughters' Hospital, Greenville, has recovered sufficiently to go to the home of her son, Dr. E. T. White, Greenville.

The many friends of Dr. and Mrs. J. B. Hirsch, Greenville, regret to learn of Mrs. Hirsch's recent illness. An early recovery is wished for her by all.

Dr. and Mrs. F. M. Acree, Greenville, had as their house guests Mr. and Mrs. C. Wulfjen, Sheridan, Wyoming.

Dr. J. W. Shackelford, county health officer, Greenville, was a recent visitor of Dr. Underwood in Jackson.

Dr. Seale Harris, Birmingham, was a recent visitor to Greenville.

The Delta Medical Society, the staff of the King's Daughters' Hospital, the Junior Auxiliary, the Greenville Garden Club, the Chamber of Commerce, the citizens of Greenville and especially the doctors and their wives of Greenville wish to extend a most cordial invitation to you all to attend the meeting of the Mississippi State Medical Association and the Mississippi State Hospital Association to be held in Greenville, May 4, 5, 6 and 7. An excellent scientific program and many enjoyable social events are scheduled. All of you will be given a most cordial welcome.

JOHN G. ARCHER, County Editor
Greenville.

WINSTON COUNTY

The medical meeting of the Houston Hospital Staff, supposed to be sponsored by the doctors of Winston County, led by Dr. E. L. Richardson, was postponed until the February meeting on account of inclement weather.

Dr. L. T. Parks, Fearn Springs, was in the city this week.

Dr. W. W. Parks has been ill this week, but is out again.

Dr. H. B. Watkins, Noxapater, was in the city on business this week.

Doctors are isolated in Louisville now "almost" on account of bad roads.

M. L. MONTGOMERY,
County Editor
Louisville.

MARTIN SANATORIUM

Dr. W. W. Hickman has left our service and returned to his old home, Noxapater, to practice.

Dr. J. H. Kellis of Louisville, is associated with us now.

V. B. MARTIN
Picayune.

STAFF PROCEEDINGS JACKSON INFIRMARY HINDS COUNTY NEWS

One of the most enjoyable and interesting Staff meetings was held on Jan. 10. After the usual good buffet supper, the program was taken up entirely by a series of case reports.

The first of these was by Dr. N. C. Womack, and involved congenital deformity of the genito-urinary tract in a child.

Dr. H. J. Burnham gave a paper and case report upon tic Douloureux. This brought forth considerable discussion.

Dr. A. G. Wilde then presented two eye cases. In one of these he demonstrated a pepper box top device as an aid in the vision of certain

corneal deformities.

Dr. D. T. Brock presented a series of very interesting and baffling cases with X-ray findings and results. His report, by its variety of cases, would prove informative to any Staff.

Dr. George Adkins then presented some interesting X-ray plates.

The questions and discussions involved in these case reports consumed so much time that it was necessary to postpone the remainder of the program until the next meeting. This portion of the program consisted of reports on the literature.

The only business of the evening was the appointment of a committee, composed of Doctors Wilde, Hand, and Watson to extend the sympathy of the Staff to Dr. Barksdale.

Report was made regarding the deaths in the Institution during the preceding month.

There were twenty-three members present, and we were pleased to have as guests Doctors Busby, Russ, Eubanks, and Kemmerer.

GEORGE W. OWEN, Secretary.

VICKSBURG SANITARIUM

A regular monthly meeting of the staff of the Vicksburg Sanitarium was held Monday, Feb. 10. After a quail supper (by Dr. J. A. K. Birchett, Jr.) the meeting was called to order by the Vice-president, Dr. G. C. Jarratt, with nine members and two guests present. After the business of the stag and reports from the records department and analysis of the work of the hospital, Dr. F. Michael Smith, Director Warren County Department, presented a report of vital statistics for the month of January.

Special case reports were presented as follows:

1. Spontaneous Pneumothorax In a Newborn—Dr. G. C. Jarratt.

2. Traumatic Hydropneumothorax—Dr. R. A. Street, Jr.

The following selected radiographic studies were shown and discussed. Tuberculosis of Hip Joint; Congenital Syphilis of Bone Before and After Treatment; Pulmonary Tuberculosis; Spontaneous Pneumothorax in a Newborn; Cholelithiasis; Hydronephrosis and Hydronephrosis.

The next meeting of the staff will be held Monday, March 9.

LEON S. LIPPINCOTT,
Secretary.

ABSTRACT:

TRAUMATIC HEMOPNEUMOTHORAX

R. A. Street, Jr., M.D.

PATIENT—White, male, age 16; admitted to hospital January 4, 1936, with a history of having been caught under a wagon wheel several hours before, the wheel passing over the right side of the lower extremity and then across the right lateral and anterior wall of the thorax. Severe pain in right side immediately; difficulty in breathing; nausea; weakness. Soon began to vomit and noted small amount of bright red blood in vomitus. Seen by local physician who referred him to Sanitarium after giving him a hypodermic of morphine. There had been a cold and cough for about one week before injury but not marked discomfort, fever, or gastro-intestinal symptoms.

PHYSICAL EXAMINATION — Acutely ill; great difficulty in breathing, the respiration being shallow and rapid. Temp. 99.6°F.; pulse

90, of fairly good quality; blood pressure 100/60; respiration 24-26. No marked cyanosis. Lungs showed distant breath sounds on right with high-pitched quality; flat note on percussion of right chest. Slight tenderness over 10th rib laterally. Numerous rales over anterior chest, but none posteriorly or laterally at base. Left lung did not show anything of significance. Heart sounds bounding in character but there were no murmurs or irregularities. Abdomen somewhat distended but no rigidity or rebound tenderness. Several bruises on right leg.

Röntgen-ray examination of chest made immediately showed partial collapse of entire right lung and evidence of fluid in the right pleural cavity. There was diffuse mottling of the lung parenchyma on the right. There was a fracture of the 10th rib on the right and a questionable fracture of the second rib anteriorly on the right. The impression at this time was that there was a hydrophemothorax on the right side with capillary hemorrhage into the right lung.

CLINICAL LABORATORY—Leukocytes count 20,900; 83 per cent polymorphnuclears. Urine not remarkable.

TREATMENT—One-eighth grain morphine sulphate and 1/150 grain of atropine given immediately. Right chest was aspirated by Dr. A. Street and about 200 cc. of bright bloody fluid was obtained from the right pleural cavity. Aspiration gave some relief in breathing but considerable bloody and frothy material was coughed up at intervals of a few hours. Morphine and atropine were continued when necessary and condition remained about the same during that day.

SUBSEQUENT—Next day the temperature was 101°F. and patient was coughing considerably, the sputum being purulent and blood tinged. Mental state was somewhat worse with delirium rather marked at times. Catheterization necessary at intervals of eight to ten hours. Able to take a moderate amount of liquids but abdominal distention continued although there was no vomiting. Given 1 cc. of pituitrin at night for distention with some relief. Colon tube inserted without relief and patient had a very poor night.

The next morning pituitrin was repeated, the colon tube inserted with some better results. Able to tolerate liquids fairly well. Continued to cough and was very restless and delirious at times. Given 1,000 cc. of 5 per cent glucose solution that afternoon.

No improvement noted during the next 48 hours. Glucose repeated the next day. Temperature between 99 and 100 degrees F.

January 9, began to show some improvement. Given 1,000 cc. of glucose solution with 25 cc. of 20 per cent salt solution intravenously. From this point there was steady improvement and the next day he was able to void and was put on a selected soft diet. Mental state had cleared considerably and cough and expectoration were less. Steady improvement continued up to January 14 and patient was discharged in very good condition. Suggestions for further care were given to the local physician.

February 10—Dr. H. S. Provine informed us that the patient developed a pneumonia in right lung five days ago with hemoptysis and high fever at onset and later definite signs of consolidation. He is getting along very well at present and has not been troubled with any abdominal distention.

VICKSBURG INFIRMARY

The regular monthly meeting of the staff of the Vicksburg Infirmary was held at seven o'clock on the evening of Wednesday Feb. 5th, 1936, in the dining room of the hospital. The following members were present: Doctors Paul Paden, S. G. Mounger, P. S. Herring, B. I. Hicks, Vincent Bonelli, B. B. Martin, W. C. Pool, F. Michael Smith, B. B. Martin, Jr., H. S. Provine, N. B. Lewis, John M. Whitney.

After an excellent supper, the following program was carried out:

1. Reading and approval of the minutes of the last meeting.
2. Analysis report of the hospital service for the month ending January 31, 1936.
3. Nomination and election of a new secretary.
4. Report of Deaths. These reports were given with a complete summary of each case, including history, physical findings, laboratory and roentgenological findings, progress, and treatment. Each report was followed by a general discussion.
5. Dr. B. B. Martin, Jr.—A ten minute talk on leg ulcers: their classifications, etiology, relative incidence, differential diagnosis, and complications.
6. Dr. John M. Whitney—The pathology of leg ulcers.
7. Dr. Nathan B. Lewis reported a case of multiple diabetic ulcers in a white middle-aged female who re-used medical attention because of religious beliefs.
8. General discussion of healing by religious beliefs, with detailed discussion of removal of warts.

Adjournment.

The next regular meeting will be held on Wednesday, March 4th, 1936, at 7:00 p. m.

JOHN M. WHITNEY, M.D.

Secretary

REGULAR MONTHLY STAFF MEETING OF VICKSBURG INFIRMARY—(MARCH)

The regular monthly meeting of the staff of the Vicksburg Infirmary was held on the evening of March 4, 1936, in the dining room of the hospital. Members present were: Ray Biggs, Vincent Bonelli, P. S. Herring, B. I. Hicks, Nathan B. Lewis, B. B. Martin Jr., Paul A. Paden, W. C. Pool, F. Michael Smith, L. L. Stoddard, John M. Whitney.

Supper was served at 7:00, followed by the program:

1. Reading and approval of the minutes of last meeting.
2. Report of hospital service for the past month.
3. Report of deaths:
 - (1) Acute mediastinitis following retropharyngeal abscess — Dr. P. S. Herring
 - (2) Bronchial asthma, chronic bronchitis, emphysema, chronic myocarditis — Dr. B. B. Martin Sr.
4. Etiology, pathological physiology, and treatment of asthma, emphysema, bronchiectasis, and silicosis — Dr. P. S. Herring
5. Demonstration of X-ray plates — Dr. Nathan B. Lewis

- (1) Spontaneous pneumothorax
- (2) Massive collapse of one lung
- (3) Lobar pneumonia
- (4) Pleural effusion
- (5) Unerupted molar tooth within maxillary sinus
- (6) Leutic osteitis

(7) Visceroptosis.

6. The president expressed to Dr. Paden the regret of the staff over his leaving. Dr. Paden medical officer for the CCC camps here for more than a year, has been transferred to Charleston, S. C.

7. Adjournment.

The next regular meeting will be held April 1st, at 7:00 p. m.

JOHN M. WHITNEY, M.D.,
Secretary

HONOR ROLL

The following have contributed to the present Mississippi News Section for the Mississippi State Medical Association.

COUNTY EDITORS: Lucien S. Gaudet, Douglas D. Baugh, L. L. Minor, W. B. Dickins, J. W. Moody, T. P. Haney, Dr. H. T. Ims, John G. Archer, M. L. Montgomery.—9.

SOCIETIES: Central, L. W. Long; Issaquena-Sharkey-Warren Counties.—2.

HOSPITALS: Martin Sanatorium, Vicksburg Sanitarium.—2.

OTHERS: Felix J. Underwood.—1.

TOTAL:—14.

Your editors thank you.

Woman's Auxiliary

TO THE

MISSISSIPPI STATE MEDICAL ASSOCIATION

President	Mrs. Leon S. Lippincott Vicksburg
President-Elect	Mrs. Adna G. Wilde Jackson
Secretary	Mrs. H. C. Rieks Jackson
Treasurer	Mrs. J. W. D. Dicks Natchez
Press and Publicity Chairman...	Mrs. Hugh Johnston Vicksburg

—JANUARY—

PREVENTORIUM ENDOWMENT FUND

Plans for completing the \$5000.00 endowment fund for the Preventorium are about perfected.

The cooperation promised by the Congress of Parent Teachers of Mississippi has been in evidence all this month.

This Auxiliary wishes to publicly thank the State Congress of Parent Teachers for giving publicity to its plans for "Preventorium Week" during the radio broadcast January 16.

This Auxiliary also wishes to express appreciation of the publication of the article, "Our Children at the Preventorium," in the January issue of the Mississippi Parent Teachers, edited by Mrs. Henry J. Meer, Meridian. This article has been read before various P. T. A. meetings. The result is many letters of interest from the presidents of parent teachers units, asking for the program to be sent to them.

For information, and to manifest interest in both the Auxiliary work and the Mississippi Parent Teachers work, send fifteen cents for this magazine, to the official office, 215 Lampton Bldg., Jackson.

The week of February 17 has been decided upon to be observed as "Preventorium Week," as this is the anniversary of the founding of the Preventorium. During this week, a most interesting program will be given in all of the schools of Mississippi. This program is so interesting that the adult will enjoy it as much as will the children. We hope no club

in the state will miss the opportunity of using this program "Preventorium Week."

Boxes will be placed in the schools so that the students may have an opportunity to contribute toward this endowment fund, to be used for the little children who are making their temporary home at the Preventorium.

It has been suggested that boxes should be placed in all public places, with proper explanatory inscriptions so that they will be available to anyone desiring to contribute to this fund by dropping their coins in these convenient boxes.

At the end of Preventorium Week, the boxes will be collected, and the contents sent direct to the treasurer of the Preventorium Endowment Fund, Mrs. Henry Boswell, Sanatorium, Miss.

DOCTORS' DAY

Thru the untiring efforts of the chairman of Doctors' Day, Mrs. Ashford H. Little, Oxford, January 15, 1936 has become a pleasant memory to the doctors of Mississippi with the anticipation of the next annual affair.

This Auxiliary voted to adopt a "Doctors' Day" at the last annual session, which was to commemorate the noble work done by our doctor husbands. This was to be a social feature tendered by the members of the Auxiliary to the members of the medical profession.

Mrs. Lucien S. Gaudet, of Natchez, reports a splendid attendance at a spaghetti supper which was given to the members of the Homochitto Valley Medical Society and was enjoyed by every one present.

From Gulfport, we hear thru both Mrs. Dan J. Williams and Mrs. John Laird, that a buffet supper, was enjoyed at the home of Mrs. Williams on Doctors' Day, the Gulfport papers giving a most interesting account of this lovely affair, in honor of the members of the Harrison-Stone-Hancock Counties Medical Society.

Mrs. G. F. Carroll, Biloxi, writes that the Biloxi Unit of the Woman's Auxiliary to the Harrison-Stone-Hancock Medical Society gave a dinner party honoring their doctors, who enjoyed the get-together immensely.

We have yet to hear from the other auxiliaries of their observation of Doctors' Day, but we feel certain that others will have a report to send in later.

We should give a rising vote of thanks to Mrs. Little, especially as the first "step" in a new venture is always the hardest, and much credit should be given to those who have the graciousness and courage to take that first step.

WOMAN'S AUXILIARY TO THE HOMOCHITTO VALLEY MEDICAL SOCIETY

At the Eola Hotel on the second Thursday of January, the Woman's Auxiliary to the Homochitto Valley Medical Society held its first meeting since the election of officers, which are as follows: President, Mrs. L. S. Gaudet, Natchez; president-elect, Mrs. H. A. Whittington, Natchez; first vice-president, Mrs. H. M. Smith, Natchez; second vice-president, Mrs. A. J. Kisner, Natchez; third vice-president, Mrs. E. E. Benoist, Natchez; fourth vice-president, Mrs. J. C. McGehee, Bude; secretary and treasurer, Mrs. C. E. Mullens, Bude; historian, Mrs. J. W. D. Dicks, Natchez. This auxiliary has a paid up membership of sixteen, and expects a great increase before March 1.

During the business session, which followed a lovely luncheon it was voted to subscribe to the national News Letter, and to procure a Hand Book. It was also voted and a committee appointed to observe the state-wide honoring of the doctors, January 15, known as "Doctors' Day." This took the

form of a spaghetti supper, and was reported enjoyed by all present.

After the regular business meeting, Mrs. Leon S. Lippincott, Vicksburg, gave an informal talk on the state auxiliary work, stressing an increase in membership, and discussing plans for "Preventorium Week."

MRS. LUCIEN S. GAUDET, President.

WOMAN'S AUXILIARY TO THE HARRISON-STONE-HANCOCK MEDICAL SOCIETY

The regular meeting day of the Woman's Auxiliary to the Harrison-Stone-Hancock Medical Society is the third Wednesday of each month. It so happened to fall on Wednesday, January 15, the day set aside to be observed as "Doctors' Day" over the state. Business was set aside, and the lovely home of Mrs. Dan J. Williams was the scene of a buffet supper, the menu served being especially prepared to please those who were being honored.

Those receiving with Mrs. Williams were Mrs. John Laird, president, and Mrs. Cummings McCall, president-elect. The guests of the evening were: Dr. and Mrs. M. M. Snelling, Dr. and Mrs. Joe P. Evans, Major and Mrs. D. J. Marshall, Drs. Emma and Fred Gay, Miss Lucille Dee Horton, of Colorado Springs, Colo., Dr. E. B. Van Ness, Dr. and Mrs. C. M. Shipp, of Bay St. Louis, Dr. and Mrs. John Laird, Dr. and Mrs. W. W. Cox, Dr. John H. Edmunson, of Birmingham, Ala., Dr. and Mrs. Charles A. Mack, Dr. and Mrs. Wallace P. Sheely, Dr. and Mrs. Efford E. Sheely, Dr. and Mrs. C. A. McWilliams, Dr. and Mrs. O. M. Gilbert, Boulder, Colo., Dr. and Mrs. Cumming McCall, Dr. and Mrs. George Melvin, and Dr. and Mrs. D. J. Williams.

Needless to say our M.D.'s had a grand time.

MRS. JOHN LAIRD, President.

THE WOMAN'S AUXILIARY TO THE NORTHEAST MISSISSIPPI 13 COUNTY MEDICAL SOCIETY

At a called meeting of the Woman's Auxiliary to the Northeast Thirteen Counties Medical Society, Friday, January 10, at the Hotel Tupelo, Tupelo, business was transacted, meeting presided over by the president, Mrs. W. H. Cleveland. In the absence of Mrs. W. H. Anderson, secretary, Mrs. G. L. Brown acted as secretary. Dr. A. J. Stacy, advisor for the auxiliary, was present and made a talk outlining the purpose of the auxiliary and the help it could be to its medical society.

Mrs. V. P. Philpot, Houston, was elected treasurer; Mrs. R. D. Kirk, Tupelo, vice-president; Mrs. R. B. Caldwell, Baldwin, corresponding secretary. The following county chairmen were appointed: Mrs. E. R. Guion, Chickasaw County; Mrs. S. R. Deanes, Clay; Mrs. J. R. Hill, Alcorn; Mrs. A. E. Brown, Lowndes; Mrs. C. B. McCown, Monroe; Mrs. J. F. Eckford, Oktibbeha; Mrs. L. L. McDougal, Prentiss; Mrs. R. F. McRae, Tishomingo; Mrs. N. W. Nanny, Itawamba; Mrs. R. G. Dabbs, Lee; and Mrs. J. A. Rayburn, Pontotoc.

Mrs. R. G. Dabbs, Shannon, was appointed chairman to complete the organization of Lee, Itawamba and Pontotoc counties.

Mrs. W. C. Spencer, Verona, was elected as an honorary member. This brings our membership to twenty-five, paid up. There being no further business, the meeting was adjourned to meet again in Starkville, the date to be announced later.

MRS. W. H. CLEVELAND, President.

THE WOMAN'S AUXILIARY TO THE ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

Members of the Woman's Auxiliary to the Issa-

quena-Sharkey-Warren Medical Society always look forward to the December meeting as that is one of the outstanding events of the year. At that time there are many distinguished guests who share with the members the pleasures of the day. This year we had the honor of having a number of guests from the Central Medical Auxiliary. Mrs. Segura, president of the auxiliary, Mrs. H. C. Ricks, Mrs. Riley, Mrs. Henderson, Mrs. Womack, Mrs. John Howell of Canton, Mrs. Van Allstine, Mrs. Hallowell, Mrs. Harvey Garrison, and Mrs. Sheffield. Other guests were Dr. and Mrs. Dan Williams of Gulfport, Dr. F. M. Smith, president of the Issaquena-Sharkey-Warren Medical Society and Dr. Leon Lippincott, secretary and our councillor.

There was almost a perfect attendance among the members. Those present were: Mrs. Sydney Johnston, Mrs. Benson Martin, Mrs. Benson Martin, Jr., Mrs. Zita O'Leary and guest Mrs. Horace Long of Florida, Mrs. George Street, Mrs. Richard Street, Jr., Mrs. Guy Jarratt, Mrs. Hugh Johnston, Mrs. Leon Lippincott, Mrs. M. H. Bell, Mrs. Ewing Howard, Mrs. Laurence Clark, Mrs. Pierre Robert, Mrs. Charles Edwards, Mrs. W. K. Purks and Mrs. John Birchett.

Dr. and Mrs. Phillip Brown of Rochester, Minn., were the house guests of Dr. and Mrs. Sydney Johnston. Dr. and Mrs. Johnston entertained delightfully at bridge in honor of Dr. and Mrs. Brown.

Mrs. George Street was hostess at a luncheon at the Golf Club for the pleasure of Mrs. Phillip Brown.

Friends enjoyed a beautiful party at the home of Dr. and Mrs. Hugh Johnston with Dr. and Mrs. Brown as the honor guests.

Dr. and Mrs. W. H. Parsons had a delightful time at the Southern Surgical Association in Hot Springs, Virginia.

Dr. and Mrs. Richard Street, Jr., spent a day in Fayette with Mrs. Street's parents, Mr. and Mrs. Noble.

Dr. and Mrs. A. Street had a lovely trip on the steamer, Control, to New Orleans, Louisiana.

Dr. and Mrs. George Street spent New Year's Day in New Orleans. While there they enjoyed the Sugar Bowl Football Game.

Mrs. Leon Lippincott has her brother and family from Memphis as guests.

Mrs. Jiggetts of Canton, and Mrs. Callahan of New Orleans, were guests of Dr. and Mrs. Edley Jones.

Mrs. D. A. Pettit entertained for the pleasure of her attractive daughter, Margaret.

Miss Zita O'Leary was hostess at a series of bridge parties in honor of her house guest, Mrs. Horace Long, of Florida.

Dr. and Mrs. Guy Jarratt have moved into their beautiful new home on Vicksburg Street.

Mrs. Preston Herring entertained the Tuesday Bridge Club and was again hostess at bridge, the plan which was very lovely.

The many friends of Mrs. Benson Martin, Jr., regret that she has been ill.

Mrs. I. C. Knox had the pleasure of having her son and daughter with her during the holidays. Mary Jo is a student at Goucher College and Cecil is attending Mississippi College.

Sydney Johnston, daughter of Dr. and Mrs. Sydney Johnston has returned to Brenau College in Gainesville, Georgia.

Mrs. H. H. Haralson had the members of the family at a lovely evening's entertainment. There were twenty-five present to enjoy Dr. and Mrs. Haralson's hospitality.

Jack Ewing who is a student at the University of Virginia spent the holidays with his parents, Dr. and Mrs. J. S. Ewing.

Mrs. F. M. Smith had as her guests her two sisters and mother during the holidays.

Charles and Franklin Edwards spent the holidays with their parents, Dr. and Mrs. C. J. Edwards.

Another pleasure of the month was an invitation to a party at the home of Dr. and Mrs. Edley Jones who are well known for their gracious hospitality in their attractive home.

Mrs. Holcombe, Mrs. Leon Lippincott's mother, continues ill much to the regret of her many friends.

Mrs. Laurance Clark and her friends are rejoicing over the improved condition of her father, Mr. R. H. Johnston, who is convalescing from a serious heart condition.

MRS. L. J. CLARK, Vicksburg.

THE WOMAN'S AUXILIARY TO THE CENTRAL MEDICAL SOCIETY

At their regular monthly luncheon meeting at the Edwards Hotel yesterday noon the members of the Central Auxiliary to the Central Medical society made interesting plans for the year's work and play. Mrs. J. O. Segura, president of the auxiliary, over the luncheon presided as toastmistress. Hostesses were Mrs. H. C. Ricks, Mrs. J. A. Milne, and Mrs. J. E. Underwood.

The membership voted to give the annual auxiliary open house on the evening of February 5 from 7 until 9 o'clock in the home of Dr. and Mrs. J. M. Acker, North State Street. The open house is always a lovely social event and is attended by many visitors as well as by crowds of Jacksonians.

As a part of the business session a letter was read which set aside January 15 as "Doctors' Day" in Mississippi. Plans for the celebration on that day will be made soon.

Seated at the luncheon table, beautifully decorated with bowls of silver leaves and white flowers, were the following: Mrs. Segura, president, Mrs. Ricks, Mrs. Milne, and Mrs. Underwood, hostesses, Mesdames N. R. Currie, W. B. Dobson, H. F. Garrison, Sr., Frank Hagaman, Robin Harris, Fred Hollowell, T. W. Kemmerer and her mother, Mrs. Williams, Mesdames J. E. McDill, R. B. McLean, J. A. Milne, W. E. Noblin, George W. Owens, H. C. Ricks, T. E. Wilson, A. G. Wilde, N. C. Womack, and W. F. Henderson.

The Jackson ladies, Mrs. F. L. Van Alstine, Mrs. Fred Hollowell, Mrs. N. C. Womack, Mrs. J. O. Segura, Mrs. W. F. Henderson, Mrs. H. C. Ricks, Mrs. H. F. Garrison, and Mrs. John Powell, Canton, who attended the Vicksburg luncheon in December, all reported a very enjoyable day.

Dr. and Mrs. H. F. Garrison, Sr., and Dr. and Mrs. H. F. Garrison, Jr., are the proud grand-parents and parents of Miss Jacqueline Garrison, who arrived on January 2nd.

Dr. and Mrs. N. C. Womack had their daughter, Mary Lane home for the holidays.

Dr. and Mrs. Carter O'Ferrall enjoyed the Sugar Bowl game and other festivities in New Orleans during the New Year Week.

Mrs. V. D. Hagaman entertained at a tea honoring Miss Ruth Sanders, bride elect.

MRS. ROBIN HARRIS,
Press and Publicity Chairman

—FEBRUARY—

THE WOMAN'S AUXILIARY TO THE HOMOCHITTO VALLEY MEDICAL SOCIETY

The Woman's Auxiliary to the Homochitto Valley Medical Society held its quarterly meeting in Natchez in the private dining-room of the Eola Hotel Jan. 9, 1936. Mrs. Leon S. Lippincott, state president, was the guest of the Auxiliary. There were fourteen members present. Plans were made for observing Doctors' Day. Mrs. Edwin E. Benoist and Mrs. C. E. Mullins were named delegates to the state meeting in May.

The Woman's Auxiliary entertained the members of the Homochitto Valley Medical Society at a spaghetti supper Jan. 15, at the home of Dr. and Mrs. Stowers. Covers were laid for thirty guests. The tables in the dining room were arranged in "T" shape and were most attractive with bowls of red japonicas and red candles in bronze candelabra.

MRS. EDWIN BENOIST
Natchez.

THE WOMAN'S AUXILIARY TO THE SOUTH MISSISSIPPI MEDICAL SOCIETY

The December meeting of the Woman's Auxiliary to the South Mississippi Medical Society was held Thursday in the Crystal Room of the Forrest Hotel.

A profusion of holly, poinsettias, and other Christmas blossoms and gaily lighted Christmas trees in the spacious room created a most festive atmosphere and was indeed in keeping with the approaching Yuletide season.

The meeting was called to order by the president, Mrs. S. E. Bethea of Hattiesburg. After the roll call and minutes were read by the secretary, Mrs. F. T. Bower, also of this city, a business session was entered into. During this time reports were heard from the various committees and accepted. Mrs. Bethea then introduced Mrs. Leon Lippincott, state president of the Auxiliary.

Her message concerned the work to be undertaken in connection with the Preventorium. Mrs. Wiley R. Buffington of New Orleans, was introduced and gave a most interesting account of the work of the Auxiliary in the Crescent City. Mrs. port of her Auxiliary. Reports of the recent meeting of the Southern Medical Association in St. Louis were presented by Mrs. J. P. Culpepper, Jr., Mrs. W. W. Crawford, both of Hattiesburg, and Mrs. L. L. Polk of Purvis.

A lovely musical program was heard during the afternoon under the direction of Mrs. Leo H. Martin. Mrs. Lawrence B. Hudson, Jr., opening the program with two vocal selections, "No Fooling" by Mana Zuca and "Where the River Shannon Flows." "Thou art Repost" by Schubert and "I Hear You Singing" by Coats, were then sung by Mrs. C. C. Hightower. Two violin numbers, "A Dream" by Bartlett and "Ave Maria" by Bach-Bonoud were played by Mrs. P. E. Smith. The program concluded with Mrs. Martin singing, "Ah! Sweet Mystery of Life" and "When You're Away" both by Herbert. Mrs. Albert Hassell served as accompanist.

After adjournment, members and guests were invited to the tea table which was artistic work of Mrs. B. D. Blackwelder, and Mrs. C. C. Buchanan. The beauty of the handsome lace covering was enhanced by a center bowl of red carnations. On either end of the table were exquisite silver candelabra holding lighted red tapers. Mrs. Polk poured hot coffee while Mrs. W. W. Crawford served the delicious individual plum puddings. Mrs. T. E. Ross, Jr., assisted in serving the guests.

Much credit is due Mrs. S. E. Bethea, Mrs. D. B. Blackwelder, Mrs. C. C. Buchanan and Mrs. Van Carlton Temple, whose untiring efforts made the occasion one to be long remembered.

Those present were: Mrs. L. L. Polk of Purvis; Mrs. Harvey Garrison of Jackson; Mrs. J. G. Garner of Columbia, Mrs. Donovan Browne and Mrs. Wiley Buffington of New Orleans, Mrs. Leon Lippincott of Vicksburg, Mrs. E. N. Blount of Bassfield and Mesdames Charles Hightower, B. D. Blackwelder, Leo H. Martin, C. C. Buchanan, W. W. Crawford, F. T. Bower, S. E. Bethea, Van Carlton Temple, J. P. Culpepper, Jr., T. E. Ross, Jr., R. E. Schwartz, Richard Clark and P. E. Smith, all of Hattiesburg.

THE WOMAN'S AUXILIARY TO THE
ISSAQUENA-SHARKEY-WARREN COUNTIES
MEDICAL SOCIETY

The many friends of Dr. Charles J. Edwards are glad to know that he is improving and hope that he will soon be out again.

Dr. and Mrs. Laurance Clark entertained last Saturday night at a lovely dinner party for a number of their friends. Everyone always enjoys Dr. and Mrs. Clark's hospitality and looks forward to their parties with great pleasure.

Mrs. Gus Street has her mother who is a most charming person visiting her.

Dr. and Mrs. W. H. Parsons gave a lovely party during the week. Everyone who had the pleasure of enjoying the occasion had a most delightful time.

Dr. and Mrs. Preston Herring leave the 23rd for New Orleans to enjoy the many pleasures of Mardi Gras.

Dr. and Mrs. George Street entertained most graciously at a dinner party for Dr. and Mrs. Henry Meyerding of Rochester, Minn.

The February meeting of the Auxiliary to the Issaquena-Sharkey-Warren Counties Medical Society was held at the Hotel Vicksburg. Mrs. Benson Martin, Jr. planned a delicious menu and had as table decorations a beautiful display of tulips. Mrs. C. J. Edwards, the president, presided over the meeting. Dr. Hickerson of Sanatorium, gave a very interesting talk. We were delighted to have as guests Mrs. Day and Mrs. Darrington of Yazoo City.

Mrs. Kendrick Purks had the pleasure of accompanying Dr. Purks to Memphis this month and attending the Mid-South Medical Convention. She reports a most delightful time.

MRS. PRESTON HERRING

ALCORN WOMAN'S AUXILIARY

The first meeting of the Alcorn Woman's Auxiliary was called to order by Mrs. J. R. Hill, acting chairman. The meeting took place at the Waldron Hotel with a twelve o'clock luncheon. Mrs. Hill introduced the guest of honor, Mrs. Cleveland, of Tupelo. Mrs. Cleveland's talk brought out the major points of the auxiliary with its purposes.

The following officers were elected: Mrs. C. F. Gilbert, president; Mrs. J. T. Davis, secretary-treasurer. A local unit was formed.

Members present were: Mrs. C. F. Gilbert, Mrs. C. W. Norwood, Mrs. J. R. Lanning, Mrs. J. R. Hill, Mrs. J. T. Davis, Mrs. A. D. Hurt, Mrs. M. H. McRae, Mrs. D. W. Hamrick, Mrs. B. Patrick.

Tennessee State Medical Ass'n. Invite Mississippians

The one hundred third annual meeting of the Tennessee State Medical Association will be held in Memphis, April 14, 15, 16, 1936.

The physician of Mississippi are invited to attend all of the sessions.

No registration fee is charged for guests or members.

All visiting doctors are given the privilege of the floor in the discussion of all papers.

A strong program is being arranged and will be issued early in April. Copy of the program will be sent to those who request it from Dr. H. H. Shoulders, Secretary, Tennessee State Medical Association, 508 Doctors Building, Nashville, Tenn.

TO ALL OFFICERS OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION, DIS- TRICT AND COUNTY MEDICAL SOCIE- TIES AND MEDICAL PROFESSION:

Your attention is respectfully called to the action of the Council as stated below and you are requested to carefully read same and govern yourselves accordingly. The Council requests that all points of difference between physician, client and Resettlement Administration be settled by and through the organized medical society in that particular county, since different conditions obtain in the several counties of the state.

The Council received the plan as proposed and respectfully refers it to the profession of the state to be handled as the various county organizations see expedient and applicable to them in their respective communities, and adopt such plan as they and the Director of that county agree upon.

* * *

(Copy)

Forest, Miss.

January 25, 1936

Dr. Jim R. Hill, President
Mississippi State Medical Ass'n.
Corinth, Miss.

Dear Dr. Hill:

We are enclosing a sample copy of a letter which was received by all Scott County physicians. The letter is more or less explanatory.

As we understand the present plan for the set up as outlined in the letter is this: each rural resettlement family is to pay two dollars (\$2.00) each month as a form of medical insurance. This charge is to be paid regardless of the fact whether or not the family has any illness during the year. The amount collected will go toward the payment of his doctor bill and also as payment for the necessary drugs.

To us this sort of proposition does not seem fair. During the two previous years the arrangement seemed to be satisfactory to both the patient and physicians. It is true that the physicians reduced their fees for this class of patients, but the patient was allowed to select his own family physician. The set up being planned now would destroy this, for the patient would have no choice.

We believe there are few relations in life so satisfactory as those between family physician and patient. The family physician is the recipient of sacred confidences and the most useful of friends to the patient or family. We believe it is and must remain a peculiarly individual service, for anything that impairs it will be a blow to society, but particularly to those elements that stabilize a nation. It cannot retain the essential quality if the physician becomes and employee of the State.

The heart and spirit go out of the medical practice when it becomes an impersonal ministration to those who are but casual incidents in a daily routine.

During the past few years, many family physicians carried on without any remuneration. Now some of these same families have been placed on the rural resettlement program, and the custom used to be the resettlement office would stand for a certain amount of medical expense. In other words, the old family physician got a chance to get a little much needed cash business from a family he had been carrying for some time. It is true that the sums received were below the prevailing charges, but in a storm anything helps. The present plans as indicated in the letter will do away with this.

Judging from this letter, it seems that the resettlement physician will also go into competition with the various local druggists. If the physician does not happen to have the drug he desires or should use, he will merely substitute another and hope that it will do as well. Aside from this, we believe it will lead to quackery. We believe any sort of arrangement as outlined in the letter will not be satisfactory to the physician or patient.

It is our belief that the entire government program during the past few years was for the benefit of the majority. We cannot see where the present plans will benefit the majority. Since the medical profession has not asked for any direct relief, we see no reason why the resettlement administration should attempt to fatten one physician in a county or community at the expense of all the others.

Our understanding is that the money advanced these families is merely a loan. At times it may be for a long term, but if these families produce a certain per cent is collected at the end of each crop year. It often happens that 75-90 per cent may be collected in one season. Most physicians would be very much delighted to collect that per cent for their services. Since the contract may be termed a loan, we see no reason why these families should not have their preference as to family physician.

If the resettlement administration plans to go into competition with other agencies such as the merchant, banker, grocer, dealers in live stock, etc., I guess we have no complaint. But we have heard nothing of any sort of plan, and we see no reason why the physician should be the step-child.

We do not know if this program is to be state wide, but even so, we feel that something should be done about it. We understand there are about 250 families on their rolls in this county. Under the present plans, it seems that one individual physician in a county might profit at the expense of all the others. During

the past two years, no one physician or druggist got "the cream of the crop," for it was fairly well distributed and each family was able to select their family physician.

We, the undersigned physicians of Scott County, members of the State Medical Association, think that definite steps should be taken to prevent the spread of any such movement against the physicians of this State.

Very truly yours,

(Signed): W. E. ANDERSON, M.D.
R. B. AUSTIN, M.D.
W. A. JONES, M.D.
J. M. TOWNSEND, M.D.
L. W. WILLEY, M.D.
O. O. AUSTIN, M.D.

* * *

(Copy)

RESETTLEMENT ADMINISTRATION

Forest, Miss.

January 24, 1936

To the Doctors of Scott County

Dear Doctor:

We as government agency as planning to set up a medical association in Scott county to furnish a physician, medical supplies, emergency first aid, and such other services as listed to RR clients:

1. An annual physical examination.
2. Such medical care in home and in office as is usually given by a general practitioner including preventative service from the more common diseases, (diphtheria, smallpox, typhoid fever, scarlet fever).
3. Medicine for the treatment of ordinary disease in an amount not in excess of \$10.00 in value for each family in the membership. This may be furnished by the physician who will be reimbursed, or by order of the Secretary-Treasurer of the association.
4. The following exceptions are made: A. An additional fee of \$7.50 shall be required for service in each obstetrical case. B. Excessive calls, especially night calls, shall not be required of the doctor. In case of disagreement between the doctor and the member, the Rural Supervisor of Resettlement Administration shall decide as to the action to be taken.

We haven't as yet set any standard as to just what will be paid as to salary, but will probably be somewhere between \$250.00 and \$275.00 per month, with offices furnished by the association. We are today writing physicians as to what interest he would have in taking up a part or whole of practice, headquarters at Forest, Miss. I will be glad to discuss this with you and will be in office Jan. 27 and 28 for that purpose. After all, the selection of physician will be left to the Director of the Association.

Yours very truly,

(Signed): W. J. DAVIS,
County Supervisor.

The Council of the Mississippi State Medical Association met in special session in the Robt. E. Lee Hotel, Jackson, Miss., February 10th on call of President Dr. J. R. Hill to adjust a matter between the Scott County physicians and the Resettlement Administration affecting the medical care of their clients in Scott County, Miss. A copy of said complaint is herewith appended and becomes a part of these minutes.

Councilor Caldwell offered a motion, duly seconded, as follows: "We commend the Scott County doctors in their plea for the family physician and their patients and join them in condemning the proposed program and plan of Resettlement Administration as offered by the Scott County Director in directing and supplying medical service and medical supplies to the Resettlement clients in that county.

"We further feel that this plan is detrimental to the people's interests and an insult to the medical profession.

"The Council further wishes to go on record as condemning this plan or any other similar plan which would in any way disturb or interfere with the established doctor-patient relation, and the inestimable right to choose his own physician.

"The Council further wishes to be recorded as opposed inalterably to any plan simulating Social or State Medicine."

Discussed and unanimously adopted.

The Secretary was instructed to send a copy of the above resolution to the National and State Directors of Resettlement Administration, to the Scott County Medical organization and to the "Mississippi Doctor" for publication.

The State Director of Resettlement Administration came before the Council by request and stated that he had revoked the Scott County order since the director of that county had exceeded his authority and then submitted a proposed plan by which he would be willing to insure to the physician caring for these clients a certain amount set aside for their medical care, as follows: "The average loan to Resettlement clients is about \$200 per year and the administration will insure to the doctor doing medical work of these clients the amount of \$24.00 per year, this to include medical services and medicines, but does not include obstetrical nor surgical fees, but should such services be necessary and the clients crop warrant it the Administration will lend him a small supplement to be applied to the above amount. The above remuneration is payable to the physician as and when the clients receive their pay."

Councilors present were: Chairman, D. J. Williams, Lucas, Caldwell, Rush, Green, Watson and Secretary Frizell.

Addresses were made by President Hill on

the importance of this question and of any approach to State Medicine and made an appeal for a full attendance upon the next session of the state association. And by President Garrison upon organization and full membership in our association, and control of all matters affecting medicine by the constituted medical organizations.

There being no other business before the Council, adjournment was had.

D. J. WILLIAMS, Chairman, Council
W. H. FRIZELL, Secretary, Council,
Miss. State Medical Association.

Jackson, Miss.

February 10th, 1936.

Laryngological, Rhinological, and Otological Society

On January 18, 1936 at Jackson, Miss., Dr. Robin Harris as chairman of the Southern Sectional meeting was host to the American Laryngological, Rhinological, and Otological Society.

This society was founded in 1895 by leading nose and throat men, principally teachers in Universities of the East. Its purpose was to bring together its members (limited to 100 at first, now 450) from all over the United States and Canada to discuss among themselves the difficult problems in their specialty. Its first present was Dr. E. B. Dench of New York. Since the beginning it has grown to be one of the very best of modern medical societies and its contributions to the profession have been most outstanding.

The program prepared by Dr. Harris and acclaimed by several members as being one of the best ever, was as follows:

1. Introduction of the President.
2. Congenital Bony Atresia of the Right Posterior Naris—H. L. Kearney, M.D., New Orleans, La. Discussion: W. F. Cotton, M.D., McComb, Miss. (By invitation)
3. Otomycosis: An Investigation of Various Fungicidal Agents in Treatment—Ralph McBurney, M.D., Tuscaloosa, Ala., and H. B. Searcy, M.D., Tuscaloosa, Ala. (By invitation)
4. The Fifth, Ninth, and Tenth Nerves in Bronchial Asthma, (Lantern Slides)—Kenneth Phillips, M.D., Miami, Fla., (By invitation. Discussion: George W. Owen, M.D., Jackson, Miss., (By invitation) and F. B. Blackmar, M.D., Columbus, Ga.
5. Some of the Immediate and Remote Complications of the Common Cold—F. Tom Mitchell, M.D., Memphis, Tenn. (By invitation). Discussion: Van Dyke Hagaman, M. D., Jackson, Miss. (By invitation) and L. H. Hughes, M.D., Jackson, Miss. (By invitation)
6. Diagnosis of Lateral Sinus Thrombosis:

Six Case Reports—Calhoun McCougall, M.D., Atlanta, Ga. Discussion: C. L. LaRue, M.D., Shreveport, La.

7. Ionization in Nasal Allergy—D. C. Montgomery, M.D., Greenville, Miss. (By invitation). Discussion: C. D. Blassingame, M.D., Memphis, Tenn.

8. The Otologist's use of the Barany Test as a Valuable Diagnostic Aid—Louis Levy, Memphis, Tenn. Discussion: Edley Jones, M.D., Vicksburg, Miss. (By invitation)

Dr. Gordan New, of the Mayo Clinic with the aid of lantern slides gave a most instructive presentation of the problems of nasal and facial fractures.

Dr. John Shea of Memphis, Tenn., reported very interesting problems in Petrositis, a complication of mastoiditis.

Dr. F. Tom Mitchell also of Memphis discussed some of the complications of the common cold in Pediatric practice.

A report of scientific research in Asthma by Dr. Kenneth Phillips of Miami, Fla., was vastly interesting.

Report of work done on therapy in Otomycolosis by Dr. H. B. Searcy and Ralph McBurney of Tuscaloosa, Ala., was most instructive.

Dr. George Taquino of New Orleans brought out many important phases of Bronchoscopy as aid to diagnosis and treatment.

In spite of one of the worst blizzards the meeting was well attended by both the specialists and the profession generally.

Jackson, and Mississippi was honored to have had such distinguished guests and appreciation was voiced by all to Dr. Robin Harris for having prepared such an excellent program and for having brought the meeting to Jackson.

Dr. J. W. Barksdale is reported to be convalescing nicely. We will be glad when he is up and about.

HARVEY F. GARRISON, JR.

Letter From Dr. Bryan

Reorganization of The Mississippi State Medical Association so as to conform with the lines of the A. M. A., having been determined upon a charter was granted by the State and same was signed by Governor J. M. Stone on the 20th of September, 1895. But it was not until 1903 that much progress was made in organizing the Association and enlisting the members of the profession throughout the state. By the time for the Annual meeting in 1934 the Council was able to report organization of county societies in forty-six counties. Among other counties to be organized during the year of 1903 was Monroe. Practically all doctors living in the county at that time joined the society and automatically became members of the State Association. The writer of

this communication was made secretary of the county society and selected to attend the 1904 state meeting as delegate. Of course I went to the meeting which convened in Jackson. This was the first time I had attended one of these annual meetings. But when I enlisted it was for life. I shall never forget some of the impressions that were registered at this meeting. First my good friend and class-mate Dr. C. D. Mitchell, then quite young for such an honor and responsibility, was president of the Association. His president's address was a masterful pronouncement. It was not only a literary gem and eloquently delivered, but it was full of wise suggestions for future guidance and activities. He stressed the great need for a higher standard of medicine. He called attention to the fact that men who were not qualified to practice medicine were rushing into the ranks in great numbers. He urged higher literary requirements for entrance into medical colleges and urged a law requiring a diploma from an A-1 college before taking the examinations for license. The seed he then sowed fell on good ground and soon grew up to bear much fruit. Much honor should be given Dr. Mitchell for the improvement that has come along these lines.

At this meeting in 1904 there were not above 150 members in attendance, but there were giants in this number. Two papers read there one by Dr. B. F. Ward on "Opium" has stood out in my thinking as few other addresses have ever done. It has been of inestimable help to me in my work. I wish that this address might have a place in every doctor's library. Only very recently have I seen that the theories advanced by him then have been proven true in some of the world's foremost research laboratories. I wish I might recount them here. At this meeting Dr. Charles W. Stiles presented a paper on "Hookworm" that proved to be worth untold money to the state. At the time of this meeting the entire membership enrolled throughout the state was slightly above five hundred. But every one in attendance seemed to have received great enthusiasm and much interest in the cause of organized medicine.

It would afford me much pleasure to mention many of the men whom I saw and met at this, my first, meeting. Many, of them are dead, but their influence and memory are still with us. They did not live in vain. What a legacy is ours and how ardently we should endeavor to emulate their best qualities and improve on their achievements! No one who was a member then can ever forget Dr. C. B. Kendrick or Dr. H. L. Southerland—and for that matter many others whose names I will not mention now, but may in some future article. I may, if it meets the approval of the Editor-in-chief, attempt to give a resume of the doings of this great Association during this

rather long stretch of time, as they recur to my memory. But I shall not deal in fiction, even tho my fancy may play me tricks at times. "LEST WE FORGET."

G. S. B.

Tuberculosis Abstracts

Those who see the steady stream of patients entering the tuberculosis sanatorium deplore the all too evident delay in making the diagnosis. About five out of each six patients in our sanatoria throughout the country are classified on admission as moderately advanced and far advanced cases of tuberculosis. One reason for delay in diagnosis is undoubtedly to be found in the lethargy of the people, coupled with the common human failing of not wishing to face unpleasant facts. Another reason is that even though the warning signals of tuberculosis have been given widespread publicity in the past, new generations are constantly appearing on the scene and older ones forget so easily. What are tuberculosis associations doing to meet this situation?

URGING EARLY DIAGNOSIS

The founders of the tuberculosis movement realized that only through broad education of the public could any progress against tuberculosis be made. The new discoveries of Koch, Naegeli, Pirquet and others, the promising resulting of Trudeau's method of treatment, the pioneering activities of Biggs, inspired hope that the disease which had resisted medical science so long could be curbed. Yet this could be accomplished only with the understanding support of the people. They must know that tuberculosis is curable and preventable, that it is not a stigma, and that facilities for diagnosis and treatment must be liberally provided. Wisely the founders chose as the motive power of the new movement, public education. In the early days the lecture was the chief means of arousing public sentiment. Later the press, printed matter and motion pictures were added. Today practically every avenue of reaching the attention of the masses is used.

Each year tuberculosis associations select a certain theme which all associations are urged to emphasize during that year. Printed matter and publicity aids are produced in advance. To make a definite impact the "release date" is set for April 1. Early diagnosis was the subject of the first of these campaigns hence it was called "Early Diagnosis Campaign," a label which has stuck even though subsequent themes were on other aspects of tuberculosis control.

This year the slogan is "Fight Tuberculosis with Modern Weapons." The two objectives

aimed for are (a) to remind people of the early symptoms of tuberculosis and the importance of consulting the doctor on their appearance, (b) to arouse interest in the routine search for early tuberculosis before there are symptoms and physical signs.

To achieve the former, booklets, articles and outlines for talks have been prepared calling attention to the four most common symptoms of early tuberculosis, (as determined by surveys of large numbers of sanatorium patients), namely, fatigue, loss of weight, cough that hangs on and indigestion. Blood spitting, pleuritis pain and other symptoms are also mentioned. It is carefully explained that none of these symptoms is pathognomonic, but that any of them should be considered as a danger signal to be investigated by the physician. An effort is made to create appreciation for the X-ray. In all the educational material care is exercised not to cause undue alarm.

The second objective sought is to encourage routine search for symptomless tuberculosis among groups of young people such as high school and college students. What is the justification for advocating this new departure?

Tuberculosis sanatorium statistics indicate that the ratio of "early cases" admitted has not increased appreciably during the past ten years. This in spite of years of earnest effort to urge people to obtain medical advice on the appearance of the early symptoms enumerated above. Many conscientious doctors despaired of increasing their batting average of discovering the disease in its incipency. The reason for that failure cannot be blamed entirely on the apathy of patients nor on the lack of vigilance of doctors. It is to be accounted for in part by the fact that the transition from "early" or "silent" tuberculosis to the moderately advanced stage is usually a relatively swift one and only by the barest chance is the minimal case detected. So long as we are obliged to wait until symptoms betraying pulmonary damage drive the patient to our offices, we shall probably continue to despair.

Wrestling with this deplorable state of affairs, efforts have been made to devise some way of detecting tuberculosis in its silent stage among apparently healthy people. Chadwick, Rathbun, Myers and others pioneered in introducing the scheme of examining routinely, with tuberculin and the X-ray, students in college and high schools. This procedure, modified in various ways, has "caught on" throughout the country. The routine examination of all students brings to light early cases that might otherwise be undetected and progress to disabling disease. Lees, who examined last year all students of the University of Pennsylvania by the tuberculin-X-ray method, found 17 cases of adult type pulmonary tuberculosis of whom

all were symptomless and only one was dismissed from the school. Contrast this with the usual method of "passive" case finding, i. e. waiting for persons to apply to the doctor for the relief of symptoms. Lees reports that during the course of the same year, 15 cases of tuberculosis had been discovered among students who came to the doctor because of one or another symptom. Twelve of the 15 were advanced cases and were obliged to leave school.

In high schools the story is substantially the same except that fewer cases of adult type tuberculosis are found. However, follow-up work of adolescent children with significant childhood type lesions leads the investigators into many homes where there is an open case. This is important, for the real threat to the youngster is probably not the calcified remains of a primary complex but daily contact with a source of infection. No wonder proponents of the routine tuberculin-X-ray plan emphasize the value of locating such sources of infection. In grade schools the routine method has not been found so productive but where funds and facilities are available, it is certainly an excellent addition to our school health program.

It is with the hope that the public will accept these newer ideas for the protection of young people that demonstrations are carried on in several important colleges and schools. It is hoped that ultimately parents will depend upon the family doctor to examine their children as a matter of course with tuberculin and the X-ray when indicated. In this educational campaign tuberculosis associations look to the physician for guidance and counsel.

"The choice of books decides the character and conduct of unnumbered millions. To read omnivorously and without discernment gives one mental indigestion. To choose poor, frivolous material impoverishes thought. To read too little starves the soul."—Selected.

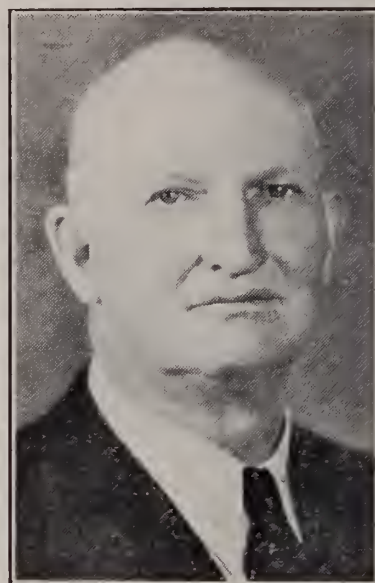
Good nature is generally born with us: health, prosperity, and kind treatment from the world are great cherishers of it where they find it; but nothing is capable of forcing it up where it does not grow of itself. It is one of the blessings of a happy constitution, which education may improve but not produce.—Joseph Addison.

Victor Hugo in *Les Miserables*, said: "We should fear ourselves. Prejudices are the real robbers; vices the real murderers."

Memory is the treasurer and guardian of all things.—Cicero.

Too low they build who build beneath the stars.

Who's Who In Mississippi Medicine



DR. RICHARD CURTIS SMITH

Drew, Miss.

He is a native of Blue Springs, Miss., Union County, born March 22, 1876, a son of J. M. and Keron Pitts Smith. He obtained his literary education from Popular Springs Normal College. He graduated in medicine from the Hospital Medical College, Memphis, in 1902, and M.D. from University of Tennessee in 1928. He has served as president of the Clarksdale and Six County Medical Society, 1919, and Delta Society, 1934; twice Vice-President State Medical Association, 1918 and 1935. He belongs to the leading medical societies of the country including state, county, Southern, Mid-South and A. M. A. He is a member of the Baptist church, president of the board of Deacons, president of the school board of his town also. He is a member of the Health and Safety Council of Boy Scouts of America. Dr. and Mrs. Smith have two children, ages 16 and 14, Curtis Agnew and Keron.

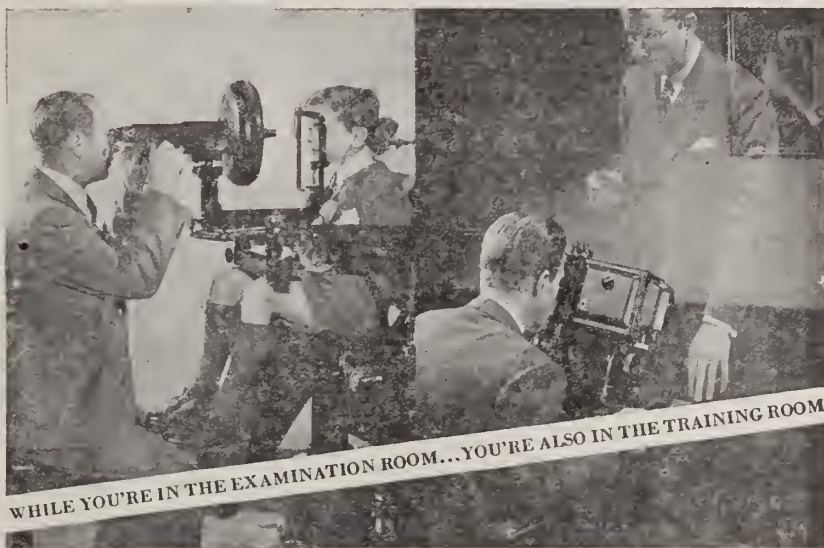
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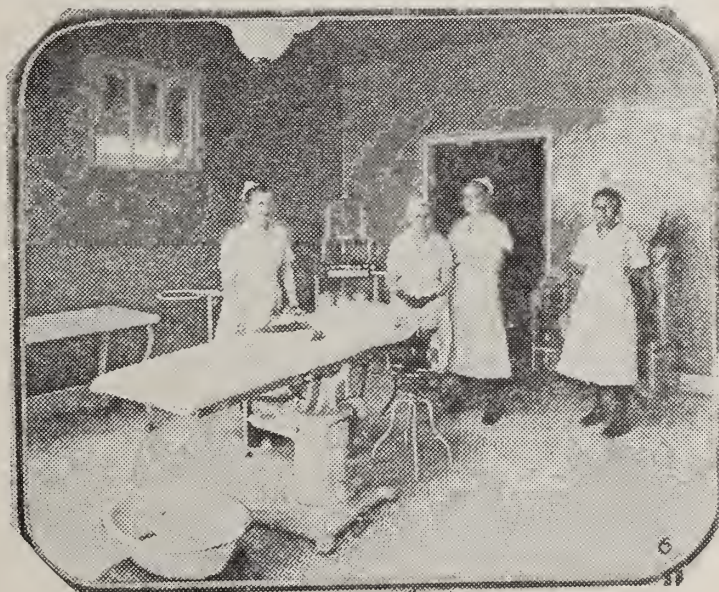
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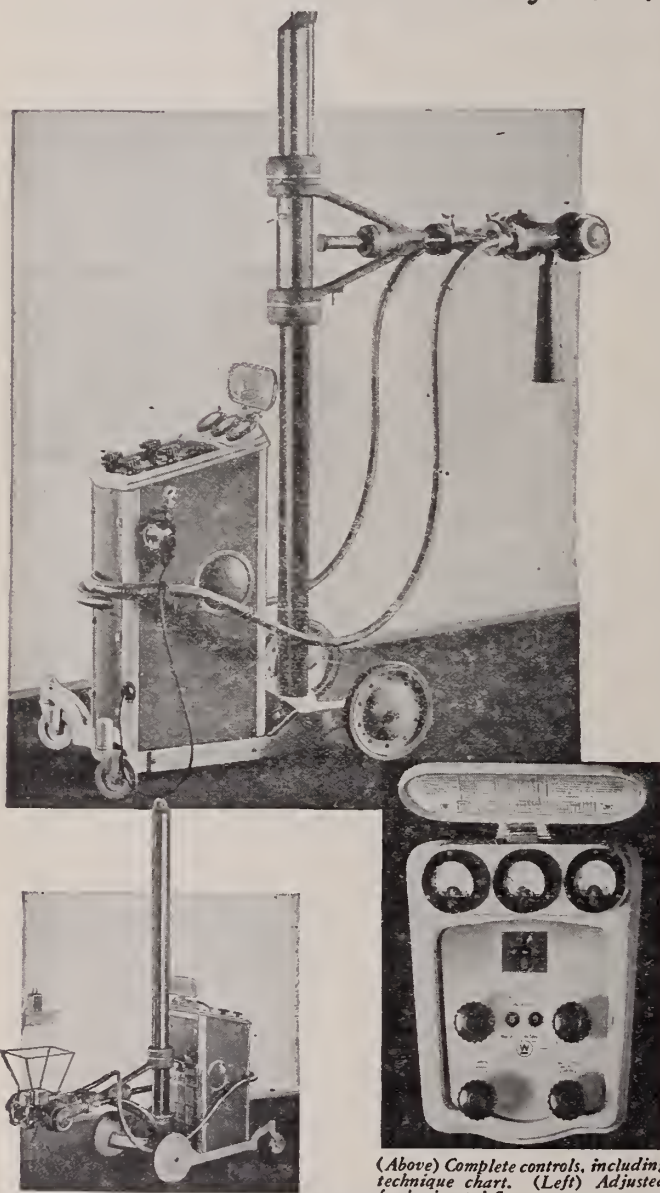
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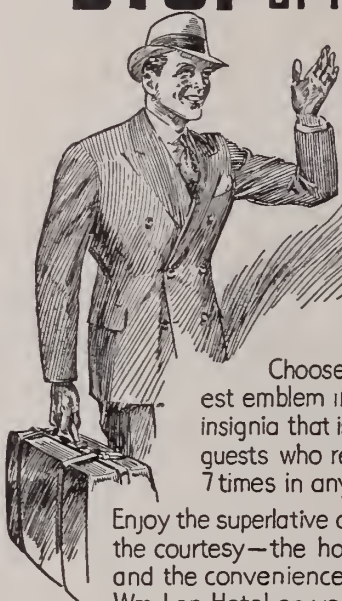


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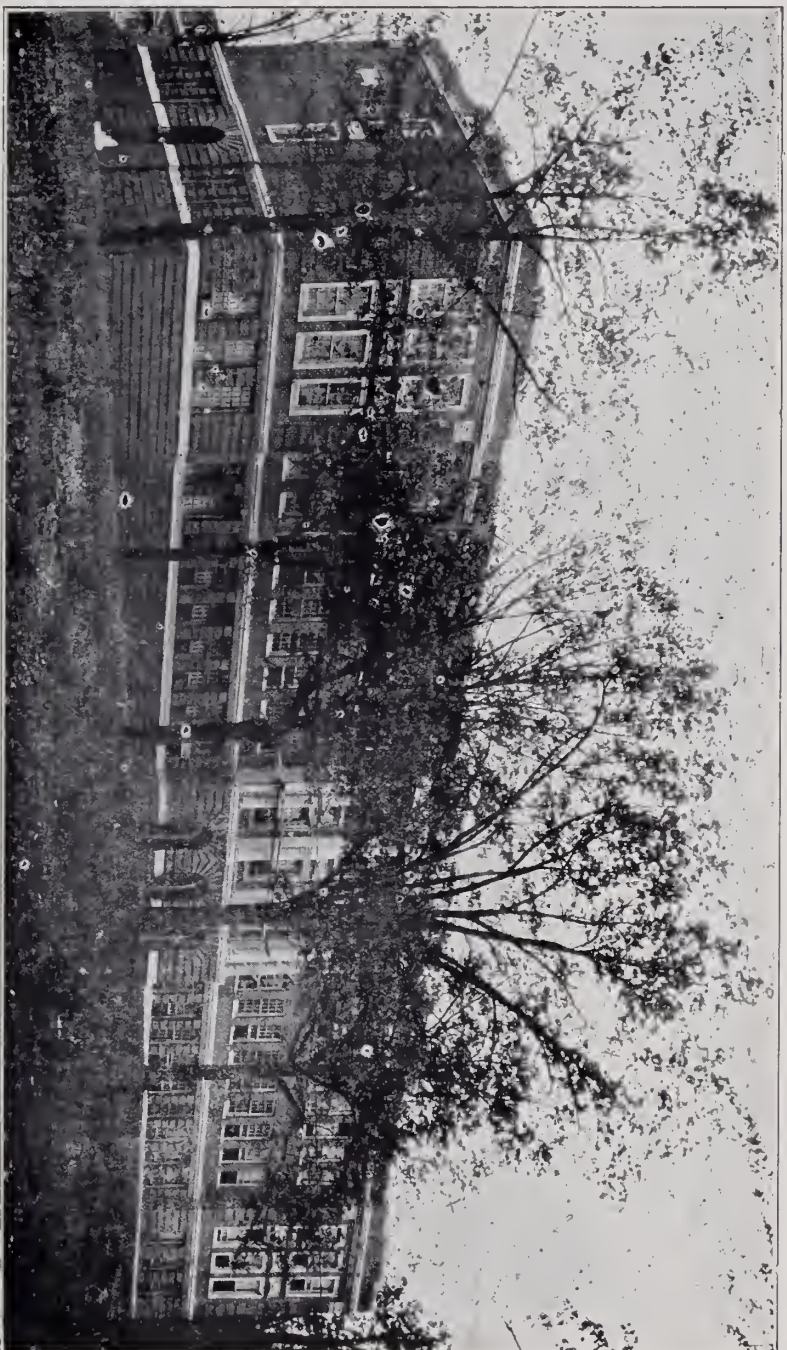
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VOL. 13.

BOONEVILLE, MISSISSIPPI, APRIL, 1936

NO. 11

Easter

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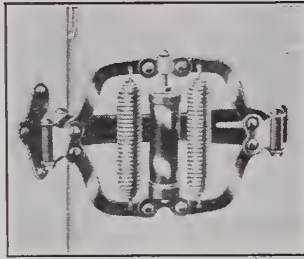
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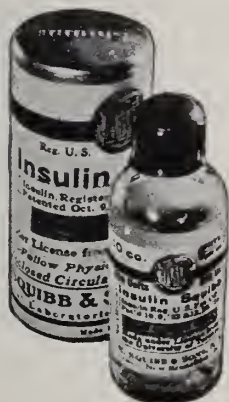


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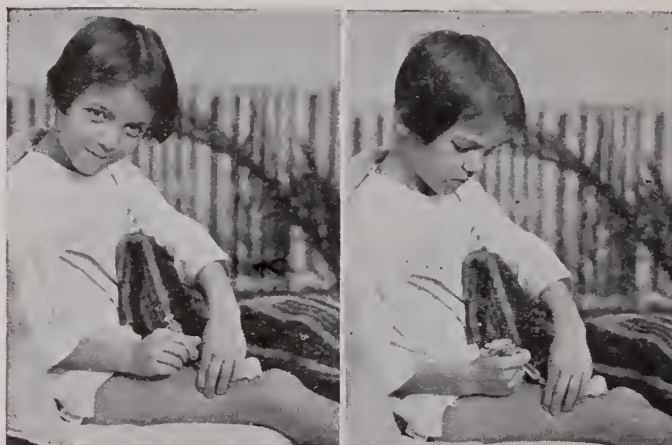
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Fever of Obscure Origin*

DAVID L. FARLEY, M.D.
Philadelphia, Pa.

Fever of obscure origin engages the attention of every practising physician—be he surgeon, internist, or specialist. The subject can be approached as a speculation on entities which will yet be separated from, at present, unclassified fevers, or, obscure fevers may be considered in the light of diagnosis. I have chosen the last mentioned.

I have listed certain causes of obscure fever in descending order of frequency:

1. Upper Respiratory Infections
2. Influenza
3. Pyelitis
4. Rheumatic Fever
5. Tuberculosis
6. Typhoid Fever
7. Subacute Endocarditis
8. Trichiniasis
9. Undulant Fever
10. Malaria
11. Abscess of the Liver
12. Visceral Carcinoma

Upper Respiratory Infections are sometimes quite puzzling. We see many patients of this type every year—in whom there is no evidence of a local lesion such as sore throat, running nose, or bronchitis—who have fever often fairly high—sometimes as much as 103°; the fever subsides rapidly after two or three days.

Many of these patients no doubt are suffering from influenza. It seems queer that influenza should offer a differential diagnosis at times from typhoid fever. However, the lack of leucocytosis (often a leucopenia), an enlarged spleen, and where broncho-pneumonia is present, a continuous fever without the usual signs of pneumonic consolidation, may present a picture very much like that of typhoid fever. The absence of rose spots and the presence of a positive agglutination test for typhoid bacilli usually establishes the correct diagnosis.

Rheumatic Fever should be looked upon as more than a disease of the joints and the heart. Undoubtedly, a rheumatic pleurisy and, I believe, a rheumatic meningitis occur. A rheumatic pneumonia has been described. We see quite a few individuals, who respond to the administration of salicylates and who have evidence of rheumatic carditis as shown by the prolongation of the conduction time in the electrocardiogram, in whom there is no evidence of joint involvement.

This clinical point of view is verified by the

pathologist, notably Dr. John A. Paul of Yale Medical School, who has found Aschoff bodies in locations outside the heart. In such patients the most striking feature is the rapid fall in the fever curve after the administration of salicylates.

We are badly in need of some exact test for rheumatic fever, but as far as I know, none exists at present.

It has been said by someone that the first thing to do in attempting to solve a questionable diagnosis is to rule out tuberculosis, syphilis, and cancer. This is a good rule. Tuberculosis appears in the most unexpected places. The family history of tuberculosis is the most valuable item we can elicit under that heading. Time and again, an obscure diagnosis is cleared up by the knowledge that the patient's mother or father died of active tuberculosis.

It is almost inevitable that a tubercular mother, in contact for any length of time with her children, will transmit the disease to them. This transmitted tuberculosis may not appear until many years later.

Typhoid Fever is the first choice of a hospital resident when he meets "Fever of Obscure Origin." There are probably more wrong diagnoses of typhoid fever than of any other disease. The quadrate of symptoms—an enlarged spleen, a constantly elevated temperature, bronchitis, and rose spots,—is almost certainly typhoid fever. The blood culture the first seven days and a Widal after the first week usually make the diagnosis easy.

Subacute Infective Endocarditis is comparatively rare and for sometime after its onset presents a diagnostic problem. The presence of petechiae from emboli is most helpful in diagnosis. I recall one case in which the diagnosis became apparent from a causeless black eye. Blood cultures on solid media give the diagnosis with greater ease while those on liquid media are usually negative.

It is surprising how long this condition may cause fever with the patient apparently in fairly good health. The realization that subacute infective endocarditis is always implanted on a previously damaged heart valve is helpful since it causes one to suspect the condition in the presence of prolonged fever and an old heart lesion.

Trichiniasis is not at all a rare disease. It produces an obscure fever which remains obscure because the disease is not suspected. Once it is suspected, the presence of an increased eosinophil count makes the diagnosis almost certain.

Verification of the diagnosis is easy by means of a biopsy of a small piece of muscle from the calf of the leg. Other muscles are more abundantly infested, but the removal of a small piece of muscle from the calf of the leg

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is usually more readily consented to by the patient.

We have had a great many cases from the eating of "hot dogs" obtained from roadside stands. Except in very severe infestation, recovery is usually complete and uneventful.

Excessive infestation of the heart muscle may lead to symptoms of circulatory failure.

Undulant Fever is suspected often because of the recent advertisement of the prevalence of the condition in America. I have seen six cases during the past year. The most striking symptom is the fever together with the feeling of well-being of the patient and the absence of any localizing signs. When one really has a case of undulant fever, the agglutination test is definite and unequivocal. Most of the cases which I have seen have given an agglutination with a dilution as high as 1:640.

The last case I saw occurred in a salesman for farm implements, who courteously accepted a glass of raw milk from every prospect. I have never seen a case which could be traced to the drinking of pasteurized milk.

Malaria no doubt is more of a problem in southern areas than in the North. However, the disease still exists in certain endemic areas of New Jersey and Pennsylvania. We handle sailors who have been infested in the tropics. The Italian peninsula gives us occasional cases in immigrants.

The thick drop method enables one sooner or later to identify the organism and is a very useful procedure. As you know, the estivo-autumnal type gives the greatest variations in the fever curve. The history from our point of view is the most important point leading to a correct diagnosis.

Abscess of the Liver, both the pyogenic and the parasitic type, practically always presents a diagnostic problem. The fever may be low, and there may be an absence of leucocytosis. Most valuable is the study of the diaphragm by means of the fluoroscope. It should be remembered that an amebic abscess of the liver causes no eosinophilia.

Visceral Carcinoma, particularly carcinoma of the liver, is apt to cause irregular fever in its later stages. The fever results probably from absorption of degenerating tissue.

A further list of less frequent causes—difficult to classify in order of frequency of occurrence—is:

1. Syphilis
2. Colin Bacillus Typhoid
3. Central Pneumonia
4. Poliomyelitis
5. Hyperthyroidism
6. Pneumococccic Peritonitis
7. Coronary Occlusion
8. Abortive Pneumonia
9. Dehydration Fever

10. Pelvic Tumors with Degenerative changes
11. Serum Sickness
12. Bronchiectatic Peri-Pneumonia
13. Pericarditis
14. Pel-Ebstein Fever
15. Malingering
16. Individuals with Normally Elevated Temperatures

Certain types of pneumonia may be puzzling: for example, central pneumonia, abortive pneumonia, and bronchiectatic peri-pneumonia. Central pneumonia and abortive pneumonia are to be diagnosed from the symptoms rather than from the signs. The history of an initial chill is helpful.

Abortive Pneumonia appears to occur more frequently in young and vigorous individuals.

Bronchiectatic Peri-Pneumonia is not an infrequent problem. The lesion is a pneumonic consolidation about a bronchiectatic cavity. For the most part, individuals with bronchiectatic cavities have no fever. There occur bouts of acute fever in these patients and when seen for the first time, the condition may be very puzzling. The existence of club fingers, often cyanosis, and the history of the expectoration of large quantities of sputum usually point the way towards the diagnosis.

Poliomyelitis is easily diagnosed after the development of paralysis. A meningitic form occurs where the symptoms and the spinal fluid examination cause the physician to make a diagnosis of tuberculous meningitis. These patients get well to the surprise of the physician.

The diagnosis is filed under the heading of "serous meningitis" for lack of a better term. This form of meningitis is of course not to be confused with the true serous meningitis, occurring in delirium tremens.

Hyperthyroidism undoubtedly may give a curve of low unexplained fever, but it is very exceptional for this to occur without the other obvious signs of thyrotoxicosis.

Pneumococccic Peritonitis occurs in young girls. The entrance of the pneumococcus into the peritoneal cavity is by way of the fallopian tubes.

It is very important to recognize the condition, as it simulates an "acute abdomen" and the symptoms may lead to operation. Operation in these cases is nearly always fatal. They usually recover if no operation is done.

Coronary Occlusion may cause a prolonged unexplained fever,—usually slight. I have under my care at present such a case. The signs of heart failure and the evidence given by the electrocardiogram make the diagnosis easily apparent.

Dehydration Fever has been considered.

Pelvic Tumors with Degenerative Changes

may cause fever from the absorption of the sterile degenerated protein material inside the tumor. I have seen this particularly in fibroid tumors.

Serum Sickness always for some reason causes surprise. It is easily accounted for when hives with general lymph node enlargement are present and when the history of the patient is carefully considered. There may be a surprising enlargement of lymph nodes. I have seen them as large as a hen's egg.

In the treatment of patients for tetanus and meningitis, it should be remembered that the antiserums administered cause a certain amount of meningitis and fever. It is particularly important in deciding when to stop treatment.

Acute Pericarditis must be recognized early where the effusion is purulent since surgical drainage may bring about a cure.

In addition to the friction rub, the obliteration of the cardio-hepatic angle, and the muffling of the heart signs, it is important to remember that there may be the signs of a pneumonic consolidation at the left base of the lung. The position of the patient who lies on the left side with limbs drawn up, refuses to be turned, and has a nervous anxious appearance—is helpful in diagnosis.

Pel Ebstein Fever, consisting of fever lasting for several days, followed by a normal temperature for several days and then a rise in fever similar to the first bout and so on with repetition of this course, is found particularly in Hodgkin's disease. Where the involved lymph nodes are abdominal or post-peritoneal without peripheral enlargement of the lymph nodes, a knowledge of this peculiar fever curve may be of value.

The Prognostic Value of Fever in Apoplexy should be mentioned. The rule is, the higher the elevation of temperature, the more serious the prognosis. Hemorrhage into the ventricles of the brain is always attended by high fever.

The records filed under the heading, "Fever of Obscure Origin" during the past seven years at one of the large Philadelphia hospitals have been analyzed and the patients followed.

Twenty-one patients had the diagnosis of their condition filed under the heading of "Fever of Obscure Origin." The average age of these twenty-one patients was 21.2 years. One would judge that obscure fevers are more apt to occur in young individuals than in older people. This of course is everyone's experience with children.

One patient, M. B., was of particular interest. Temperature records were made for 434 days during a period of four years. There

was always an elevation of temperature above normal, varying from 99.2 to 101 degrees. She had mitral insufficiency of rheumatic origin. Every conceivable test was made in the attempt to find an origin for the fever. All tests were negative. It seems likely that the prolonged elevation of temperature was the result of rheumatic fever. Several patients of the group appeared to be cases of rheumatic fever without signs of involvement of the heart or the joints. I have an impression that this occurs not infrequently. There seems little doubt that rheumatic fever occurs without joint symptoms.

There were two patients in whom the only explanation for fever was syphilis; neither of these patients was in the secondary stage, and neither showed evidence of visceral syphilis.

Two patients in the group apparently were suffering from "American Typhus," or Brill's disease. One patient in whom all agglutination tests, blood cultures, etc., were negative—who ran a typhoid-like course for a period of two weeks—was thought to have a colon bacillus typhoidal infection. The blood culture was negative. Agglutination for colon bacillus apparently was not done. The patient's onset was with an intestinal upset.

The patient, N. P., age 17, was sick a week before admission with chills, fever, malaise, and diarrhea. The fever continued in the hospital for three weeks and fell by lysis. She was discharged apparently cured. Repeated blood cultures, stool cultures, and Widal's for typhoid, *Bacillus militensis*, etc., were negative. The spleen was palpable. Rose spots were present. I have seen a number of such patients who had all the signs and symptoms of typhoid fever, in whom the Widal test for typhoid fever was negative. One is forced to consider the possibility that in very rare cases of typhoid fever, the patient does not develop agglutinins.

Another patient in whom search for the cause of a twelve-day bout of fever was negative subsequently returned to the hospital after five months and had a large uterine fibroid removed. I believe that degenerative changes in fibromyomata may lead to protein absorption with the production of unexplained fever.

Several patients in the group might have been classified as suffering from influenza. One patient's course suggested that he had a poliomyelitic meningitis without the development of paralysis.

A patient not listed in the group under consideration but seen by me at another institution had been diagnosed as pneumonia, although no signs of consolidation in the lungs could be found. It developed on questioning that she had been living for about ten days on sips of root beer, unknown to the physician in

charge. She also had a moderately extensive skin burn. After she was put on an adequate caloric intake by nasal feeding the fever subsided. The conclusion was that her fever was the result of dehydration and acidosis. The urine showed acetone and diacetic acid.

Humorous Episodes sometimes relieve the serious quest in diagnosis. There comes to mind the case of the young woman in the hospital ward who was suffering from obvious lead poisoning, but there was no way to account for the source of the lead. After several weeks of puzzling over this problem, it was found that she had under her pillow a box of lead oxide, which she was using as face powder.

It cannot be too much stressed that correct diagnosis often depends upon the taking of a detailed and exact history of what has occurred at the onset of the disease and the course following this.

Some Aspects and Operations of Chest Surgery*

Norman Bethune, M.D.
Montreal, Canada

Mr. Chairman, Ladies and Gentlemen:

I have been looking forward, I assure you, for the past two months with the greatest pleasure and expectations to being with you since I received your kind invitation. These expectations on my part were entirely selfish. One of them, the first, has been gratified, but in the other you have failed me dismally. The first I refer to is the pleasure I knew I would receive from my visit, the second, was my delight at being able to escape, even for a few days, the cold winds of the frozen North. Here I feel that you have sorely disappointed me, but the warmth of your welcome has reconciled me to your chilly temperature.

Chest surgery paradoxically enough, is, at one and the same time, the oldest and yet the youngest branch of specialized surgery. It ranges from the Garden of Eden, when the Lord performed the first partial thoracoplasty through an astronomical distance of time up to yesterday when Dr. Duane Carr of Memphis, performed the last thoracoplasty with not quite the same object in view as the first that was performed. Yet chest surgery, as a self-conscious and organized specialty came into being not until after the War of 1914-1918, and this in spite of brilliant preliminary work, much of which still remains absolutely sound, and only part needing revision, done

by such men as De Cereville, Tuffier, Freidrich, Wilms, Sauerbruch, Brauer, Brunner, Lillenthal Dumarest, Morrison Davis and Archibald. What has taken place since the first part of this century is not only advances in technique, but more important still, advances in physiologic and pathologic concepts of the nature of normal and abnormal pulmonary conditions. It and its fellow infant, neurological surgery are going through the same phases as abdominal surgery has gone through. These phases are clinical then clinico-operative, and finally clinico-physiologic-technical perfection. Just to mention how recent major lung surgery is, (that is intrathoracic surgery as separated from surgery of the chest wall) the first total successful pneumonectomy was performed by Nissen in 1931, and the first successful pneumonectomy performed in America was done by Graham in 1933. Yet, last year alone, 20 total pneumonectomies were reported at the annual meeting of the American Association for Thoracic Surgery.

The scope and the field of thoracic surgery embraces the thoracic cage, its walls, boundaries and contents. Within this field there are over 50 technical operations which are commonly performed for some 25 separate or complementary diseases. In tuberculosis alone, there are 20 separate or combined surgery procedures in collapse therapy. Herein lies its claim as a separate surgical specialty, for general surgical principles as applied by the general surgeon too often fail to meet particular emergencies in the chest, and the road to the City of Wisdom lies through the Valley of Tears and Humiliation.

The pathological conditions encountered may be divided into five groups:

1. Acute and chronic infection of the bronchi, lung and pleura, such as pulmonary tuberculosis, lung abscess, pneumonitis, bronchiectasis, acute and chronic empyema. These are the commonest diseases encountered, and of these tuberculosis of lung comprises 75 per cent of our work.
2. Such pathological conditions as asthma, post-operative atelectasis, pulmonary embolism, etc.
3. Tumors of the lung, mediastinum and thoracic esophagus, both primary and secondary, carcinoma, sarcoma, neurofibroma, teratoma, lymphoblastoma and dermoids.
4. Lesions of the heart and pericardium, such as mitral stenosis, calcified and adherent pericarditis, and even (as shown by the brilliant work of Beck) renewal by collateral circulation, of defective coronary arterial supply.
5. Lesions of the wall and boundaries of the thorax, such as diaphragmatic hernia, fistula and tumors of the ribs and

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pleura.

Chest surgery is unique in another respect. On account of the close physiologic and anatomic relationship between the lungs and the heart, any lesion which concerns one, or any operation involving one, greatly effects the other; for example: A thoracoplasty on the chest wall is in all essentials a cardioplasty, and the lungs may be considered as merely the hollowed and thinned out extensions of the heart. The lungs are really the fifth, the peripheral chamber of the heart.

Let us start with the commonest condition met with—pulmonary tuberculosis. Here is one of the most unique diseases in the entire realm of surgery as it is the only contagious disease which is being treated by operative procedures. Tuberculosis of the bone and joints has been commonly called surgical tuberculosis, but in fact all tuberculosis of the body should be considered a possible subject for surgery, and by surgery I include the operation of pneumothorax. This surgical attitude towards pulmonary tuberculosis has arisen as a result of the failures of the serologists or immunologists and the chemiotherapists to deal with pulmonary tuberculosis successfully. At the present time collapse therapy is the great rock on which modern treatment of pulmonary tuberculosis is founded.

Collapse therapy is, of course, in all essentials only an enforced, disciplined rest, and immobilization of the ever moving lung, which movements are so injurious to the diseased tissues. By collapse therapy we stop or reduce markedly the movement of the diseased lung, approximate the walls of cavities, reduce the blood supply, cut off lymphatic drainage and produce a localized ischaemia. By these means the tubercular process is halted, and, if a successful collapse can be obtained, the chances of our patient recovering are tremendously increased. Without collapse therapy, a patient with a tubercular cavity is, in a vast majority of cases, condemned to death, as statistics have shown that 60 per cent of cavity cases are dead within two years; and 80 per cent within five years. On the contrary, with collapse therapy, early enforced, we are able to cure well over 50 per cent of all our cases, and by cure we mean, closure of cavities and rendering the sputum free from tubercle bacilli. When one looks at the economic aspects of collapse therapy, one is struck by the enormous gain in the saving, not only of life, but of large sums of money, as tuberculosis is costing this country something like \$300,000,000.00 a year, in lost wages, cost of upkeep of sanatoriums and medical care. But while patients are being discharged from sanatoriums with positive sputum and allowed to go back into society, and are infecting their fellow-

men, we will never be able, as doctors to control this disease. Obviously the state must do more than it is doing. I would advocate first of all, a nationwide investigation by fluoroscopic examination of every man, woman and child in the country. Such an examination, which could be done in one minute, at an average cost of five cents, would pick up 90 per cent of cavity cases. It is these cavity cases which have tubercle bacilli in their sputum, which infect the members of society around them. When we have discovered these carriers of disease, it is only logical that they must be segregated, officially if necessary. I would suggest that such obligatory segregation in sanatoriums should carry with it financial remuneration to those so confined. Once in a sanatorium, with modern means of collapse therapy, we will be able to cure 50 per cent of these people. The other 50 per cent with positive sputum must not be allowed to return to general society, but must live in specially set-up village communities where they will be able to support themselves with part-time work, liberated from the fierce competition of the world of labor. The industries in which they would be employed should be allocated to them by the government and protected by monopolies. Whether the government would undertake such a logical solution to this problem in controlling a disease which is the leading cause of death in young people between the ages of 15 and 25, is probably too much to be hoped for under the present economic system. The laissez faire and indifference of our politicians are to blame for our present high death rate in tuberculosis, and until the state is as willing to pay as much for the protection of the health of its citizens as it is for the protection of their private property by the army, the navy, the police and the fire departments, it is mere hypocrisy to say that "A Nation's Health is a Nation's Wealth."

In addition to the above aspect, we as doctors, are often guilty of not detecting tuberculosis early enough. We should remember that the stethoscope is a very uncertain instrument and will only discover one out of three cases of early tuberculosis. That physician who gives a diagnosis on whether or not a patient consulting him in regard to chest symptoms has or has not pulmonary tuberculosis, basing that information on the fact that he cannot hear rales in the chest and has not taken an X-ray film or done a fluoroscopy to confirm it is one of the most dangerous quacks in medicine today.

In our highly geared and synchronized industrial society, there is no such thing, in contagious diseases, as private, individual rights—there are only public responsibilities, and more and more we medical men must realize that we are all practicing public health. It would

seem to me that the solution to the problem of the proper care of the public can only lie in socialized medicine, and for this purpose I would advocate a union of all health workers, including physicians, dentists, nurses, masseurs and technicians, and altho their individual problems may vary, their main problem is the same. This is in line with the modern ideas of the vertical type of trade Unionism as opposed to the old-fashioned horizontal type which we are now employing in separate associations of doctors, dentists, nurses, etc.

Let us abandon our so-called scientific isolation and grasp the realities of the present social crisis. A change is coming and is inevitable, and already the craft of Aesculapius is beginning to feel beneath it the great surge and movement of the worldtide which is sweeping on, obliterating old landscapes, not to be turned back by even the King Canute of the American Medical Association.

In thoracoplasty we have, next to pneumothorax, our most successful means of closing large and otherwise fatal cavities. We are able to cure and put back to work approximately 66 per cent of patients who have had this operation with a mortality of between 10 and 15 per cent.

Another operation which is very successful in selected cases is that of phrenicectomy or phrenic crushing, which operation paralyzes the diaphragm and reduces the movement of the lung. This operation will be successful in closing cavities if not too large and not too old, in about 50 per cent of cases.

In regard to bronchiectasis, we believe we have found in lobectomy the answer. This operation is now on a firm practical surgical basis and carries with it a mortality of from 15 to 20 per cent. Although this seems high the results and cures are absolute.

Carcinoma of the lung would appear to be on the increase. It is now between 5 and 10 per cent of all carcinoma. It's four times as great in men as it is in women. The symptoms of early carcinoma in a patient from 35 years of age onwards are those of coughing with or without expectoration, perhaps with some asthmatic symptoms, with pain, slight dyspnoea and perhaps haemoptysis. Such a patient should be subjected to a most rigid examination, which includes X-ray of the chest, lipiodol bronchography, bronchoscopy and possible exploratory thoracotomy. Since approximately 60 to 75 per cent of all carcinoma of the lung arises in the walls of the large bronchi, an operation for the removal entails a complete pneumonectomy. The mortality of this operation is at present approximately 33 per cent, yet without such an operation, the average duration of life is less than two years. One of the most encouraging things about carcinoma of the lung is that

many metastasize late and often even the regional lymph nodes at the hilus may not be involved until late in the course of the disease, making successful removal possible.

All lung abscesses we are now treating with bronchoscopic drainage up until a period of two months. If this is not successful in that period of time, we consider an open operation is necessary. The results of such an operation are excellent.

As to operations on the heart, I will leave that to Dr. Beck to speak on as his experience is undoubtedly wider than any one else in this country. I will only mention Cutler's operation, performed in 1923, of incizing stenotic mitral valves, suturing of stab wounds, decortication of calcified pericardium and pulmonary embolectomy, all of which have been successfully performed.

Carcinoma of the esophagus is to thoracic surgery still the great unsolved problem. Undoubtedly the future will show some way out.

Coronary Thrombosis*

HARLOW BROOKS, M.D.

Attending Physician Bellevue Hospital
New York City

Coronary Thrombosis is no longer rated as a rare or infrequent disease in any part of this country. Most physicians, particularly in the United States, are well acquainted with its clinical picture because it was first adequately described and delimited in this country due especially to the keen clinical judgment of Herrick of Chicago. Of course for the very first description of the condition we must go back to Heberden and to Jenner, who none the less confused it, quite naturally, with the picture of angina pectoris. It was Jenner again who first tied together the pathology of coronary thrombosis with the clinical picture of an angina.

The disease is exceedingly frequent in this country, and here in North America it is rapidly increasing in occurrence, perhaps due to the great stress of life which is so evident to all of us. It is found in the tropical and subtropical countries with very much less frequency; in certain of these countries it is still rare, so much so that this fact should be recognized in the climatic or geographic treatment of the disease.

But a few years ago—and my old autopsy reports, made while I was a young pathologist on the staff of Bellevue Hospital show this strikingly—the disease was rare except among the intellectual classes. Now it is frequent

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in our wards at Bellevue which draws its clientele mostly from physical workers and the less fortunate members of our New York society. It is quite common with us now, even among the northern negroes, though I am told by such men as William Thayer, Longcope, and my intimate colleagues in the further South that it is still infrequent among the Southern negroes.

It is still most common in the male sex though I believe that with the increasing participation of women in the more stressful phases of modern life it is becoming more and more prevalent with them. Of 427 cases from my office practice which I was able to analyze before I came here, 333 were in males against 94 in women.

So generally well recognized is the condition among most practitioners in this country now that there is perhaps little excuse that I should presume to bring the subject before you today except that because of the great frequency and importance of the subject, but it is also very necessary that it be more carefully differentiated from similar pictures, particularly because it is the observation of your reader that improper treatment frequently occurs especially because of a too pessimistic prognosis and because like many other diseases it presents certain vagaries which are as yet insufficiently recognized.

It may perhaps be wise to very briefly again call to your minds the typical clinical picture which causes this to be ordinarily one of the most clear cut and usually unmistakably recognizable of clinical pictures.

The disease has a very sudden onset though in some instances it is preceded by long standing anginoid or frankly anginal attacks. It is introduced by sharp oppressive pain in the precordium, reflected into the left shoulder and arm, into the neck and into the abdomen. Slight exercise, even emotional stress serves to greatly excite this pain. The pain is unrelieved by the nitrites or by anything except the most powerful hypnotics, morphia, chloroform and the like. The pain is persistent and unless the patient is put under large doses of morphine or the like, it may persist for hours, even for days. Its intensity is very great. With the pain is a striking degree of medical shock which becomes immediately apparent. The blood pressure falls, and even in previously hypertensive cases, the pressure drops, particularly the pulse pressure; both diastolic and systolic levels are involved strikingly in most cases. Cardiac arrhythmia is not the rule. Cyanosis is also not a usual sign; on the contrary the fascies of the patient is grey, distressing and in severe instances, the picture is that of a profound degree of shock. The skin in marked cases is drenched with cold sweat. Usually the heart sounds become, how-

ever, distant and the pulse is so soft that it can hardly be counted. No cardiac murmurs are at first present. Within a few hours, or inside of two days a pericarditis becomes demonstrable either by a pericardial rub, or by the signs of pericardial effusion. The secretion of urine either greatly diminishes or becomes entirely suppressed, sometimes for two or three days. A polynuclear leucocytosis of from 12000 to 20000 appears. A fairly well maintained but usually low run of temperature appears within 12 hours or so. It is maintained usually in favorable cases for a matter of from three to ten days, very rarely longer except in complicated cases. Certain electrocardiographic changes usually, but by no means always, appear, of which the most frequent and most characteristic is an inversion of the T wave in leads I and II. About 40 per cent of the patients die within 48 hours; the remainder slowly recover to present thereafter more or less definite evidences of cardiac deficiency throughout their lifetime. So much for the typical picture which now-a-days is rarely mistaken by ordinarily skilled physicians.

Unhappily for the art of diagnosis the recognition of cured, quiescent, or cases well advanced in convalescence is a most uncertain and difficult matter. Only those diagnosticians who have had no cases of this phase of the problem have failed to commit serious errors of judgment in this class of case. Time does not permit us to enter into this question widely, and perhaps it is better to omit its discussion entirely rather than to attempt otherwise. It must suffice here to say that in these instances the electrocardiogram, the determination of cardiac muscle reserve and careful fluoroscopic study are of preeminent value. Most important of all however is the history of a likely attack in the past, and with this as a basis, a meticulous search for a corroborative pathology should be undertaken.

The pathology of the acute lesion is very simple. It is that of an infarction of the heart muscle from the obstruction of a coronary trunk. For the production of the typical clinical picture, this infarction or coronary thrombosis must have been a relatively rapid affair. Coronary closures from slowly advancing coronary obstruction as from a slowly progressing coronary endarteritis or from an atheroma of slow onset are likely to produce few or no symptoms of the acute disease as we know it clinically. Thus we find, especially in the aged, enormous areas of complete coronary obstruction without either sign or symptom, but of course with more or less secondary cardiac fibrosis and the inevitable limitation of cardiac power. This accounts for the numerous instances seen at autopsy in which we find very advanced chronic disease of the coronary

arteries, but entirely without clinical evidence of it.

It is nonetheless very difficult for the sincere student to realize that in some instances in which the clinical picture is striking, or even in which death takes place, but a small area of coronary infarction may be found. We are as yet entirely unable to explain why in some instances a thrombosis of the coronary takes place in which little or no actual disease of the involved vessel wall can be made out, and in other instances extensive roughening and disease of the vessels occurs without a thrombosis. There then remains still some unknown factor at fault, though in the average case we shall find not only local coronary disease but wide spread endarteritis also present throughout the arterioles, notably evident in the retinal and conjunctival vessels. The careful scrutiny of these trunks with the hand lens and ophthalmoscope is therefore very important in the problem of diagnosis. Absence of changes however does not negative the diagnosis.

Since the pathology is usually based on preliminary endarteritis of the coronary vessels coronary thrombosis is far more frequent in adults and elderly persons, a fact long recognized, but it also appears in children. Several instances have been reported in infants. I have seen three typical instances under fifteen. It is notable in this respect to recall that one of the cases of thrombosis recorded by Heberden in his original study on angina pectoris occurred in a child of nine years. Again it appears that there are other factors concerned in the evolution of the disease than the mere existence of an endarteritis. It is remarked by almost all students of this problem that it appears most commonly in persons of a highly sensitized emotional or nervous type, perhaps then more or less determined by the existence of a spasmophilic tendency.

It seems primarily important to make as definite a distinction of this disease and this well established pathological picture from the symptom complex of angina pectoris as possible. Angina pectoris is a complex produced by many varying pathological changes, as by aortitis, myocardial degeneration, or by coronary disease and by still other conditions. Coronary thrombosis is produced exclusively and only by thrombosis of one or more of the coronary vessels. In angina pectoris the pain is transitory, usually short lived; in coronary thrombosis it is persistent and unrelieved by the nitrites, which are commonly so very efficient in angina pectoris. Neither fever, leucocytosis nor pericarditis occurs in simple angina pectoris. The treatment and the prognosis vary greatly and are much in favor of cases of angina pectoris. Each attack of coronary thrombosis is invariably followed by persistent evidence of cardiac crippling. Nev-

ertheless, most fatal cases of angina pectoris finally die from coronary thrombosis which has all too frequently been confused with the symptomatic complex of angina pectoris.

In the minds of many clinicians who have not had occasion to critically review their case records, there is a persistent idea that coronary thrombosis is frequently a result of syphilis. Study of my own statistics as well as of many others shows that this is a relatively rare association, present in a little more than four percent of the cases. By all odds the most frequent etiological factor in coronary thrombosis is heredity, if not, of definite coronary thrombosis then of cardio-vascular disease of some closely allied pathological character.

The impression also seems to be wide in the profession that coronary thrombosis is connected in some definite manner with hypertension. This is not borne out by my case records, in which it is found more frequently in hypotension, but most commonly of all in cases of normal or usual tension. This of course refers to conditions present before the coronary accident takes place, for during the attack and oftentimes for even weeks or months thereafter the blood pressure is abnormally low even in cases which were previously hypertensive.

Too much attention has been paid to a supposed typical manner of reflection of the pain in coronary thrombosis. It may be reflected in almost any direction, but as a rule it is most commonly preponderatingly in the precordium, but the reflection is very frequently into the abdomen. So commonly and so definitely is this so that I have many instances in my series in which a preliminary diagnosis of acute perforation of the stomach or intestine has been made, or of acute appendicitis, acute gall bladder rupture and the like. Unfortunately in several of these instances the diagnosis of coronary thrombosis has finally been made on the surgical table, after laparotomy has demonstrated a negative abdomen. Usually in these by no means infrequent cases, the true lesion is recognized at autopsy. I have seen no instance in which this grave error in diagnosis has been made and surgery resorted to in which death has failed to occur though the immediate death rate in coronary thrombosis does not run above 45 per cent in properly treated cases.

This fact again is of importance since while the death rate is high in coronary thrombosis it is by no means invariably a fatal condition as some seem to feel. Intense pain is always and quite correctly given as one of the outstanding characteristics of coronary thrombosis. Nonetheless there is a small percentage of instances in which it is entirely absent and in a good many cases the pain is not typically

severe. I have records of otherwise typical instances of the disease in which pain was entirely absent. One occurred in a well known surgeon, standing at the operating table. The shock was so severe that he fell to the floor and had to cease his operation, yet he was able to walk to the dressing room. Throughout the entire course of his sickness which ended in recovery with a fairly well compensated heart, he suffered no pain whatever though he developed typical electrocardiographic changes, pericarditis, fever and leucocytosis with a subsequent crippling limitation of cardiac muscle reserve. These silent, or anaesthetic cases are indicated, as already suggested by those instances in which the usually agonizing pain is quite bearable and readily controlled by moderate doses of morphine or other sedatives. One must not therefore exclude the diagnosis of coronary thrombosis because the usually characteristic unbearable precordial pain lacks.

The one invariable sign or symptom which I have noted is that of shock. This however, varies greatly in degree and it is occasionally quite mild in character. Both this sign and that of pain also seem to depend in large degree on the size of the thrombosed vessel, the larger lesion producing a correspondingly larger amount of pain and shock, and vice versa. This can be extended to prognosis also; death is much more frequent when the vessel involved is large.

Nearly 40 per cent of my cases have shown also embolism in other parts of the body than the heart. Generally the exact time of occurrence of these vagrant emboli can be definitely determined by the added symptoms of such a process. These embolisms occur as a rule within three days after the coronary process; they may occur also in the acute onset. Frequently they occur within a few moments of the original process and by no means infrequently they appear to be the immediate cause of death. They are found most commonly in the spleen, the kidney or brain but I have seen cases of saddle embolism of the femorals while pulmonary emboli are quite frequent in right coronary thrombosis. They appear to originate from mural clot which develops in the chamber of the heart chiefly affected by the thrombosed coronary; they may thus appear in either the greater or the lesser circulation. Pulmonary infarct may occur or perhaps produce a shot like exitus from an embolism in the medulla or some other immediately vital center.

Complete anuria is a very common occurrence. It is caused by the fall in pulse pressure. It sometimes lasts several days and in some instances adds to the typical picture of coronary thrombosis that of an uremia. Where the anuria, as is sometimes the case, is the

result of renal infarction, the first urine voided is blood stained, but when it is due merely to shock and to hypotension, it presents no evidences of renal defect, per se.

Another fallacy in regard to the condition in the minds of some is that there is a relationship between alcoholism and coronary thrombosis. As a matter of fact probably quite the opposite is the truth. O'Leary, the brilliant public examiner of Boston, has shown that arterial disease is less frequent in alcoholic subjects than in normal ones, and the use of alcohol has been well recommended by several of the best students of the disease, by such men for example as Paul White, Herrick of Chicago, and so on in conditions leading up to coronary thrombosis. Its efficiency in angina pectoris which is so frequently a precursor of coronary thrombosis is attested by Heberden himself who rates it as secondary in efficiency only to opium. Of course this was before the day of Lauder Brunton who gave us the use of the nitrites in angina, which in efficiency certainly stands second to opium in angina pectoris though it is quite futile as regards prompt relief in most if not all instances of coronary thrombosis.

Much as to the outlook depends, as we have mentioned on the size of the vessel involved. If it be small we now know that the prospect is ordinarily good and the prognosis as to ultimate cardiac efficiency relatively better, but if the vessel involved be of the larger calibre, the symptoms and the outlook are correspondingly worse. Death takes place in most fatal instances of coronary thrombosis from the cardiac infarction, rupture of the heart wall and hemorrhage into the pericardium. Occasionally it appears to be the direct result of the shock alone, and occasionally from secondary embolism elsewhere as in the brain.

It is well for every clinician to consider thoroughly the manner of the lesion produced in order that he may intelligently institute treatment. The condition produced is one of infarction of the cardiac muscle with consequent failure of cardiac force and a compensatory fall in blood pressure. The conduction paths of the heart may be seriously compromised. Rupture through the infarcted area is favored if the pressure is raised by drug means or otherwise as by exercise or excitement. Healing takes place by replacement of the diseased and blood infiltrated infarcted area with tendrils of fibrous connective tissue and the production of a scar. Heart muscle in the adult can not reproduce or repair it itself; hence we must await the production of fibrous scar. Aneurismal distension through this scar frequently takes place; this is the most frequent cause of cardiac aneurism beyond doubt. Whether aneurism or merely scar formation

follows the occlusion of the coronary, there is always loss in cardiac muscle efficiency definitely commensurate with the extent of the lesion.

It is obvious from the above that repair and healing can only take place then through the formation of a firm scar and the surgeon and physiologist have shown us that this takes about six weeks; hence it is that the patient who has suffered from a coronary thrombosis must remain as quiet as possible for at least six weeks.

Fortunately the heart is not entirely dependent on the blood supply furnished by the coronary vessels but it also receives a large amount of nourishment from the Thebesian vessels which extend directly out into the muscle from the heart cavities. This supply explains those rare cases in which victims of thrombosis of the major coronaries survive, and they may live to a considerable degree of vital efficiency. Where calcification or proliferative endarteritis of the coronary vessels take place slowly, as we find in old age and other instances of advanced obliterative arteriosclerosis, these Thebesian vessels take on the functions of the coronary trunks. We see such cases at autopsy in deaths from other lesions.

It is a mistake to be too pessimistic in regard to the outlook in coronary thrombosis. Neither can one determine either by electrocardiographic studies or by clinical observation what the ultimate outlook may be; it is only observation over a space of time that can determine this fact. It is however entirely safe to assume that no heart which has undergone a thrombosis of any extent is ever again as normally efficient as it was before the accident. This absolute fact must be brought to the attention of the patient and he must thereafter act accordingly as long as he lives if he would hope to fully live out his normal expectancy of life. It is however a great mistake to so frighten a patient that his life becomes but one of constant expectation of death. Death itself is preferable to any such mental state as this, but the patient must admit to himself that he will be required to spend more time in sleep, that he must avoid unnecessary physical or emotional stress and that he will be wise to remain under the occasional observation of a competent physician who can decide for him to a large extent what is possible for him and what is unwise for him to undertake.

After these discursive remarks concerning some of the misunderstanding and peculiarities of coronary thrombosis, I wish to discuss also but briefly, the treatment of the condition, the rational of which I hope has been indicated in what has gone before.

It is obvious that the time of greatest peril

is immediately after the accident, and that the degree of danger decreases as time goes successfully on.

Beyond question pain must be relieved as promptly and as fully as possible. With relief of pain immediate danger is much decreased. It is useless to experiment with the milder sedatives and anaesthetics since persistence of the pain also intensifies the degree of shock. The patient should lie down if possible, and no attempt should be made to remove the clothing or to transfer him to his own bed chamber. He should be given a large dose of morphine hypodermically. If this is inefficient or insufficient, it should be repeated. Doses of less than one-half grain are not worth while in adults, and not infrequently several grains of morphine may be necessary before relief is afforded. I have seen cases in which even then the agony was insufferable, and on several such occasions I have administered chloroform by inhalation with benefit and apparent safety. After immediate relief has been afforded adjuvant sedatives may be administered such as luminal, the bromides, paraldehyde, and the like. For obvious reasons we avoid chloral and such drugs as particularly depress the blood pressure. As the pain gradually subsides it is frequently well to continue the use of the bromides or smaller doses of barbituric acid preparations so that the restlessness and emotional irritability of the patient may be reduced, and so that he may more willingly submit to the rest which is by all means the keynote of the convalescent treatment of the disease.

During the acute phases of the disease the nitrites are entirely useless, and they are of little if any benefit during convalescence except that there appear a hypertension or associated anginal attacks.

As a rule digitalis and the digitalis type of drug is definitely contraindicated during the acute phases of the accident, much as the ineffective action of the heart may seem to indicate it. There is little doubt that anything like full digitalis action tends to increase the work of the heart and to favor rupture. There are many cases however in which the administration of digitalis becomes obligatory. This is particularly so when cardiac arrhythmias appear, when the liver enlarges, and when edema or basal congestion of the lungs appears or seems threatened. In other words digitalis is advised when congestive failure appears. The same is also more or less true of such drugs as theocalcine, metaphyllin and in general the group which has for its active element caffeine or theocine, both of which tremendously stimulate the psyche, the medullated and the sympathetic nervous system. Although the action of coronary dilatation might seem to be indicated or desirable, the other

and unfavorable actions of these drugs which act to the definite disadvantage of the patient are to be avoided at this period. Later in convalescence all these drugs may be used to great advantage. Quinidine is of course not to be considered even when fibrillation appears, and it is exceedingly rare in these cases that this uncertain agent acts favorably. Iodides are well employed during the convalescence in many cases. Their benefit may lie in part in their anti-thyroid action and the depression of metabolic rate. No doubt the very most important step in the treatment of the case is to obtain as complete rest, physical and mental as is possible until such time as a firm scar has developed at the site of the infarction. The patient must be therefore strictly confined to bed for a period approximating six or more weeks. Where the patient is allowed up and about as soon as his subjective distress has been relieved, rupture of the heart wall through the infarcted area will be favored or he will tend to develop an aneurism of the heart which sooner or later causes death through rupture or embolism. Numerous illustrative instances of these terminations have appeared in my practice.

Some patients however, either from their own too great fear or because of too much solicitude on the part of the physician go to the opposite extreme and refuse to return to reasonable activity when the time has arrived when this is relatively safe and desirable. This is of rare occurrence in so far as the aged are concerned, but in youths and adults otherwise fairly sound there always comes a period in convalescence in which it is far best for the patient to get up and to resume relatively normal activities both emotional and physical. Too long continued rest, too little activity in relatively young persons leads beyond doubt to cardiac, as it does to degeneration of voluntary striped muscle. Such patients may be safely advised to undertake in temperance the usual business stresses, to walk, ride and to take such other exercises as do not increase cardiac rate abnormally, produce arrhythmia, dyspnoea, edema, or other distress of any kind. In many instances of angina pectoris, caused by coronary disease, complete relief from the angina follows coronary thrombosis so that the patient is much more comfortable after the attack than before.

Does this suggest to you a possible avenue of surgical relief of angina pectoris or coronary thrombosis sometime in the future when we shall undoubtedly be able to definitely locate by electrocardiographic studies or otherwise the vessels involved?

It is, I am certain, unnecessary for me in speaking to this body of practitioners to point out that in this disease as in most others, one must treat not the disease but the patient.

The mental and emotional appeal has much to do with success in the management of this disease as it has in most others. The attitude of the physician even, his interest and sympathy are often of much more value in the management of the convalescent phases in particular than the drugs or methods which he employs. All this is particularly true of this disease in which causation and precipitation are largely under the influence of emotional and nervous factors. Call it psychotherapy, suggestive therapeutics, or what you will, one man succeeds by precisely the methods of medical management with which the other fails. The subject of coronary thrombosis needs especially this, the character types which distinguishes a true physician from a mere mechanician.

Oxygen medication has a very definite field in the treatment of many of the acute cases, and in some of the convalescent ones. Unlike in some other disease conditions this particular need can not be determined by the presence or absence of cyanosis. Rothschild in particular has shown the large role which adequate, even over abundance of oxygen plays in the relief of the symptoms, and how anoxaemia even of minor degree determines the onset of the attack. One can only try its effect. In some cases it will in no way improve the patient, but in other instances it gives very great relief of the pain and the shock.

Our past inclination has undoubtedly been to give altogether too pessimistic a prognosis in coronary thrombosis. The period of greatest danger is of course during the immediate attack, but with the disappearance of the shock and if no extraneous emboli form, the immediate danger rapidly decreases up to the time of appearance of a firm, well-knit cardiac scar. When this has taken place except in the old, otherwise diseased or the feeble, the outlook is fairly good though there is of course a very definite tendency toward the occurrence of other similar accidents in the future. I know of several physicians in active surgical and medical practice who have suffered this accident and who, after a proper period of convalescence have been able to carry on an active professional life for years. One colleague suffered from six distinct coronary thrombosis, one complicated by embolism of the right femoral artery which required amputation of the thigh, and who up to the time of the last and fatal attack, was able to carry on a fairly onerous office practice. The six attacks in this case were scattered over a period of eighteen years. The diagnosis in this case was confirmed by autopsy.

It is the opinion of your reader that the professional management of these cases should be continued indefinitely. Sufficient exercise, but not too much, must be prescribed. Di-

version, but by no means dissipation, must be provided. The weight should be held at such a figure as to afford the greatest vigor and sense of well being without permitting an obesity which will add to the burden of the circulation. More than ordinary rest should be practiced and the hours of sleep and of relaxation should be carefully conserved.

Surgical treatment of coronary thrombosis in so far as sympathetic trunk section or ganglion resection has not been successful, though it has at times been practiced, especially when after the thrombosis has taken place, angina pectoris of a particularly distressing degree has appeared or persisted. This method of treatment has now been very generally discarded in angina pectoris, and it is even less effective in cases of thrombosis, while it undoubtedly does increase the danger of death, since if successful it removes the sign of safety which pain indicates in this disease on effort. Nerve trunk block or injection may be practiced without danger, but success of the method in so far as the relief of pain is concerned in post-thrombosis angina is to put it safely, not great.

Now that so many are interested in total thyroidectomy in decompensation of the heart the method has naturally been seriously considered in coronary thrombosis. I have employed it successfully in cardiac decompensation in several cases, though usually from the nature of the case in which it is practiced, it is not brilliantly successful. I have never tried the method in angina pectoris, though the Boston school speak favorably of it. It is certainly a method worthy of consideration in at least some instances of coronary thrombosis in which especially angina of a distressing degree is associated with low cardiac reserve. My experience with the method however, leads me to feel that it is likely to be found of most utility in cases which are, or have been, in some degree hyperthyroid.

A frequent question on the part of patients who have suffered a thrombosis is as to the employment of alcoholics after the accident has taken place. Just as in angina pectoris, I feel that alcohol is usually far more beneficial than harmful unless it be used in unreasonable excess. Alcohol is both an agreeable condiment and an efficient vaso-dilator and sedative. Properly used it is highly beneficial, and it often adds materially to the comfort and pleasure of a largely non-privileged class. As in angina pectoris, I feel, however, that tobacco is almost always harmful both because it usually accentuates the symptom of angina and because in many, if indeed not most cases, it acts harmfully on the heart muscle. In a few instances perhaps it may break the anginal attack; I have seen such cases; but it usually increases the frequency and severity of angina.

The climatic treatment of coronary thrombosis is a very important and valuable method for relief and for the prolongation of life. Almost all cases do best in the tropics and subtropics, and where it is impractical for these patients to live throughout the year in such climates, it is at least very beneficial for them to spend at least the periods of greatest climatic severity in mild or warm countries.

Altitude is of relatively lesser importance though most cases do best at sea level or thereabouts, and obviously, perhaps because of blood changes, the very high altitudes are to be forbidden. Hilly districts also are detrimental to most cases because the usually best exercise of all, that is walking, is greatly hindered by the constant temptation of walking on grades, always a bad thing to undertake.

The wise physician is prepared to give valuable advice to his patient on the subject of hobbies and occupation. It is one of the most valuable subjects on which advice is to be given in regard to the management of cases. In very many instances more or less work is imperative as an economic necessity, particularly in these days of social, financial and economical insecurity. The physician can usually after a little study of the patient and of his economic requirements offer solutions of the greatest possible value for the patient's best welfare in these respects. Most men are far better off when they can contribute at least to their own support and continued self respect by doing some work—it is usually medicinally beneficial for them, for long periods of enforced idleness are bad for the normal self-respecting man, bad for him morally and bad for him from the standpoint of physical welfare also.

Patients who are financially independent and who are sufficiently intelligent to take up a suitable hobby may substitute for work the pursuit of a well chosen hobby which will add much to the satisfaction and content of life. Music and the other arts whether as a performer or as student and devotee offer a tremendously fertile and happy field for many of these patients. In the pursuit of such hobbies, carpentry, wood or metal working, modeling, sketching or painting, the advice of the physician should be sought and if wisely directed, these advocations add not only to the joy but also to the duration of life, and take away the worse than worthless apprehension and worry of sudden death which in more instances than not tends to invite that very conclusion all the more certainly and promptly.

In conclusion I wish to point out that we no longer expect a complete and typical clinical picture in all instances with all the typical signs, symptoms and laboratory findings or coronary thrombosis, but as in practically all other disease pictures we must expect consid-

erable variation in all the characteristics of the disease. Let us not forget this in our differential diagnosis.

We must give up the idea that the disease is an attribute of old age only. We must also give up the theory that it is dependent on syphilis. We must also accept the proven fact that the tendency toward the disease is an hereditary one, associated with cardio vascular disease of almost any variety. It is in no way definitely associated with hypertension.

Most cheerful of all we must remember that after the first two or three days the prognosis becomes better and better almost hourly, and that the occurrence of the lesions need not necessarily incapacitate for a moderate life though it inevitably leaves the patient with a less efficient heart than was before present.

Proper, prompt and adequate treatment is of the greatest possible value. The key notes of these procedures is first relief of pain and shock; second a long period of rest for time in which proper scar formation may appear. Temperate life stress thereafter is essential and richly pays both physician and patient.

Drug treatment is of imperative value in the early stages of the accident, and the powerful sedatives must be pushed vigorously, to be replaced later by the more mild forms. Cardiac stimulants are usually contraindicated except when compelled by symptomatic demand.

After the first hours of the accident prognosis becomes progressively more favorable. In very many instances which survive the immediate attack, the appearance of coronary thrombosis is not incompatible with a reasonably normal life, but in all instances there is a definite, occasionally slight but more often grave limitation in cardiac reserve. These restrictions of after life are not incompatible with considerable joy of the remaining pages of life.

When finally death arrives, it usually comes with merciful speed, short suffering and a blotting out of life before it becomes a burden to the patient or to those who care for him.

Coronary thrombosis is not a terrible disease then, for it carries with it the usual final promise of a sudden relief by a quick and merciful death.

Finding new words in books, magazines, and newspapers, and spending a few minutes a day looking them up and studying the derivation, meaning, and the correct usage of the words will enable one to learn new terminology quickly. In determining words which should be studied, do not leave out one whose meaning and usage you are not certain about, but that you probably could use. Include that word, study it, and make it your own.

The Significance of Chronic Non-Gonorrheal Foci of Infection in the Male Genital Tract and Their Relation to Chronic Disease*

GILBERT J. THOMAS, M.D., F.A.C.S.
Minneapolis, Minn.

I have chosen chronic non-specific infections of the male genital tract for discussion at this meeting because they are of general interest and because they occur in the practice of every practitioner of medicine and surgery. They are often overlooked during a complete physical survey. They may have a direct relationship to many chronic inflammatory lesions involving other tissues or organs and the majority have no relationship to venereal disease. The advent of prostatic resection has again emphasized the importance of chronic prostatic infections because they must be reckoned with during the differential diagnosis of prostatic hypertrophy. Before and after resection an infected prostate gland requires treatment and this condition may not have been discovered before examination for causes of urinary difficulty were started. In my opinion many patients have resections for minor enlargements of the prostate that could be reduced by adequate treatment aimed at the chronic infection which may be present. Some patients who submit to prostatic resection have prolonged convalescent periods accompanied by fever and continuous pyuria because an infected prostate was not recognized and treated before resection was started.

All urologists know that infection of the prostate occurs frequently through the hematogenous route and that this infection may be part of a genito-urinary infection, the urine carrying the offending bacteria from original infected areas in the kidney to the prostatic urethra and through the prostatic ducts into the prostate. This occurs in tuberculosis frequently. Prostatic infection may continue after other genitourinary lesions have healed, and acting as a focus it may reinfect the lower urinary tract and via the blood stream produce metastatic foci elsewhere. All physicians in general practice do not know that non-venereal chronic infections in the prostate are very prevalent in men of all ages. Many internists who work in clinics, dispensaries or hospitals in close cooperation with a urologist require repeated examinations of satisfactory expressions of material from the prostate during a general physical survey, especially when

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the intersist is looking for foci of infection.

I have studied between 500 and 1,000 case histories of patients who were known to have chronic infections of the genital organs. Fifty-eight per cent of these histories contain no information indicating a previous venereal infection. Forty-two per cent of these case histories reveal that these patients had a urethritis some years before. My experience teaches that a previous gonorrheal urethritis which occurred years before a chronic infection in the prostate is discovered has little or no relation to a chronic hematogenous infection. If we discount the possible etiological factor of these ancient urethral infections (gonorrheal or not), my opinion is that about 90 per cent are blood-borne and secondary to present primary foci in teeth, tonsils, etc.

INFECTION IN THE EPIDIDYMI

Before continuing with a discussion of chronic foci of infection in the prostate and seminal vesicles, I want to say a few words about chronic infections of the epididymi and their relationship to those in the prostate and the seminal vesicles. During the physical examination of a male patient a slight enlargement or tenderness or both in one or both epididymi may be the first or the only clinical finding that suggests the presence of infections in the prostate or seminal vesicles. When this slight tenderness or swelling is present, repeated examinations of the expressed content of the seminal vesicles and the prostate should be done before a negative diagnosis of infection in these organs can be made. It is my opinion that a severe epididymitis, which occurs so frequently following a slight trauma to the scrotum and its contents, means that previous infection was present in the epididymi and that the trauma activated this condition.

ANATOMY OF THE PROSTATE

The prostate may be described as a sensory musculo-glandular endocrine organ shaped like a horse chestnut and situated around the neck of the urinary bladder and a considerable portion of the urethra. It is in intimate contact with the bladder neck musculature and is closely associated with the internal sphincter of the bladder and possibly with the compressors of the urethra. The adult gland consists of two lateral lobes and a median portion, which frequently may become a lobe. The base of the prostate is toward the bladder, the apex being at the triangular ligament. The urethra and the ejaculatory ducts pass through it. This gland is primarily a secretory organ, secretions coming from many glandules, each of which has a special secretory duct. There are about twenty-five of these ducts which divide and sub-divide, forming many gland duct alveoli and finally ending in what may

be called terminal alveoli. Continued subdivision of the ducts into alveoli produces a very large epithelial surface. The epithelium of the alveoli is transitional, while the ducts are lined with a cylindrical type. The alveoli and the ducts are surrounded by a great number of both striated and non-striated muscle fibres. Within and around the prostate are many muscle fibres, some of which become associated with those of the internal sphincter of the bladder. The prostate is surrounded or contained in an anatomical, as well as a surgical, fibrous capsule which is continuous with many parts of the pelvic fascia.

The arterial blood supply consists of branches from the middle hemorrhoidal, the internal pudic and the inferior vesical, which after branching from a dense network within the alveolar walls. The veins arise in the dense fusciculi within the gland tissue and around the ducts and empty into the internal iliacs. The lymphatics are tortuous, compared with the arterial supply, and form two large trunks which empty into the obturator nodes of the pelvis and then into the internal iliac nodes. The nerve supply is from the hypogastric plexus of the sympathetic and anterior roots of the third and fourth sacral. This nerve supply, both sensory and motor, is very rich, containing ganglion nodes, numerous ganglion cells and variously constructed end-organs.

FUNCTIONS OF THE PROSTATE

The functions of the prostate may be divided into sensory, muscular, glandular and possibly an endocrine function. The prostate serves as a sensory organ because in the prostatic urethra we have very many end-organs and these serve as a portion of the sexual reflex apparatus, stimulation resulting in erection and ejaculation. Since the prostate is rich in motor, vasomotor and secretory nerve fibres, it is possible that it has to do with the desire for and frequency of urination.

The muscle fibres of the prostate are intimately associated with those of the circular muscle, which controls the bladder neck, so that the prostate has some relationship to the internal sphincter and functions during the closing of the bladder neck. During periods of sexual excitement the erection and the muscular action of the verumontanum serve a definite purpose. This brings together in close proximity the verumontanum and the openings of the ejaculatory and prostatic ducts in the center of the urethral lumen. This action probably produces a very thorough admixture of these various excretions or secretions, which is very desirable for the viability of the spermatazoa. The musculature of the prostate functions during the ejaculation of the semen and at the end of the sexual orgasm. These muscular contractions empty

the ejaculatory ducts and aid in the expression of the semen along the urethra. Except during sexual excitement the musculature surrounding the duct alveoli may act to retain prostatic secretions within its ducts.

The main function of the prostate is glandular, or its function as a gland. It secretes a thin, turbid fluid which has a slightly alkaline reaction and is very rich in albumin. Microscopic examination of this fluid reveals refractile bodies about one-fourth the size of a red blood corpuscle, which are called lecithin crystals, lecithin bodies or lipoid bodies. This fluid contains epithelial cells from the urethra or the prostatic ducts, leukocytes and some small refractile bodies of organic substances—corpora amulacea, and other crystals that are principally phosphates. The presence of this prostatic secretion seems necessary not only for the motility but for the longevity of the sperm. Some observers claim that the alkalinity of the secretion is very necessary. Others have investigated the PH of the prostatic secretion and believe that it has an efficient buffer mechanism. It is possible that the prostatic secretion dissolves some materials in the seminal vesicle secretion, which produces activity and nourishment of the sperms. When the function of the prostate is interfered with, as during chronic infection, spermatazoa may appear without motility. When this infection has been relieved so that a normal amount and the normal character of the secretion are regained, the spermatazoa become very active again.

The question of endocrine function of the prostate has never been satisfactorily determined. Many observers claim a relationship between the endocrine function of the testicle and the prostate, but an effect of the function of the prostate upon the testicle is questionable. No one has been able to study satisfactorily the direct effect of prostatectomy on the function of the testicle on sexual function because a complete prostatectomy is rarely done, so that enough prostatic tissue is left to carry on any internal secretion or endocrine function. I have talked to many non-neurotic, intelligent patients who, following prostatic massage, experienced a feeling of well-being. They feel better than before the massage is done; they are relieved and become calmer and less nervous. I cannot believe that this feeling is entirely due to the fact that the prostate and vesicles are empty or that the sensation is like the relaxation following sexual intercourse. It is possible that during massage some material from the prostate or vesicles enters the blood stream and produces the feeling of well-being. If the prostate has an endocrine function, this may be activated during and by the massage.

ANATOMY OF THE SEMINAL VESICLES

The adult seminal vesicle is an oblong, somewhat flat body with a nodular surface. The upper end is broad, the lower end being smaller and directed toward the base of the prostate. Seminal vesicles are about two inches in length, one-half inch in breadth and are situated above and behind the prostate. When the bladder is full, they are in direct contact with it throughout their length. Posteriorly through their lower half they are separated from the rectum by a small amount of connective tissue. The posterior surface is covered with peritoneum in the upper third. Medial margins of the seminal vesicles are in contact with the ductus deferens. The lower end of the ureters may be found in front of the upper end of each vesicle. The seminal vesicle is primarily a long, single tube with many right-angle turns so that the organ is divided by ridges into many cavities or ducts. There is one long, tortuous, main duct which connects with the numerous smaller ones. The lower end of the main duct becomes the ductus excretorius and by joining with the duct of the ampulla forms the ejaculatory duct.

A study of injected specimens reveals the fact that the main duct of the seminal vesicle may have many variations in size, shape and position, and in relation to the accessory duct. These variations in size and position of the duct may possibly have something to do with the difficulty in clearing the vesicles of infection following massage. The seminal vesicle is held together by firm connective tissue so that it forms a dense continuous mass. The wall of this organ consists of an external connective-tissue layer, middle well-developed muscular layer and an inner secreting-mucous membrane.

The function of the seminal vesicles is not completely understood. Some observers believe that they serve only as reservoirs, while others believe that they have a secretion which forms part of the semen and that it is necessary for the viability and motility of the spermatazoa.

CLASSIFICATION OF CHRONIC INFECTIONS OF THE PROSTATE AND SEMINAL VESICLES

Since I have limited this discussion to chronic non-gonorrheal infections of the prostate and seminal vesicles, this classification will be based on the type of bacteria which are found. Both acute and chronic prostatitis and seminal vesiculitis of non-gonorrheal origin may be produced by a wide variety of organisms. Among them may be mentioned: *Streptococcus viridans* and *hemolyticus*; *Staphylococcus viridans*, *hemolyticus*, *aureus*, *albus*; *Bacillus coli*; *Micrococcus tetragenus*; *Bacillus pyocyaneus*; *Trichomonas intestinalis* and *Ba-*

cillus tuberculosis. It is impossible to differentiate the type of infection from clinical signs. Bacteriological studies are necessary. Some bacteria may be present without pus cells in the secretion and cultures become necessary before a diagnosis can be made. It is only recently that we have recognized Trichomonas infection in the prostate.

Since I have been interested in the study of genitourinary tuberculosis, I have learned to search the prostate for this type of infection. When a cystoscopic or urethroscopic examination is made for a patient suspected of having urinary tuberculosis, a careful examination of the prostatic urethra is always made. We frequently encounter large prostatic ducts which exude thick pus on pressure and therefore indicate infection within the prostate—usually tuberculosis. One might attempt to classify infections of the prostate by labeling them interstitial or focal but it is difficult to determine the amount and location of infected areas by palpation alone, so that I have not attempted to make this classification.

ROUTES OF INFECTION

Infection of the prostate is possible along the mucosa of the urethra from the anterior to the posterior portion and then through the prostatic ducts, which is considered the usual route during a gonorrheal urethritis. Another route is by direct invasion along the urethral mucosa and through the prostatic ducts, secondary to an upper urinary-tract infection. The bladder and then the posterior urethral mucosa are secondarily involved when they are constantly contaminated by the infected urine from the kidneys. This occurs frequently in tuberculosis.

Clinical evidence reveals that the blood stream is the probable route of invasion in 90 per cent of the chronic prostate and seminal vesicle infections. A study of clinical histories indicates that infection reaches the blood stream from chronic foci in the teeth, tonsils and elsewhere and may be carried to the prostate and vesicles. The prostate and seminal vesicles drain poorly and their usual drainage may be interfered with by the infection, which causes swelling and obstruction of their ducts. This difficulty with drainage may cause absorption of bacteria or the products of inflammation and infection so that other foci of infection or inflammatory lesions occur in any tissue or organ of the body. Some observers believe that some bacteria have a selective affinity for certain organs or tissues so that a direct connection between foci in the teeth and tonsils may be demonstrated without other lesions having been produced. Von Lackam in certain instances was able to relieve symptoms after clearing up infections in the pros-

tate and vesicles when known foci of infection were still present in teeth and tonsils. He has been able to prove clinically and experimentally an etiological relationship between infected prostatic secretion and infectious metastatic lesions.

SYMPTOMS

Symptoms caused by infection in the prostate and seminal vesicles or both will be discussed under the following headings: (1) Local symptoms, (2) Urinary symptoms, (3) Sexual symptoms, (4) symptoms involving the nervous symptoms, (5) General and constitutional symptoms.

The importance of undiscovered infections in the prostate is emphasized by the necessity of grouping the symptoms. The complexity of the symptoms which may be produced by a chronic infection in this organ indicates how necessary it is for the general practitioner and the internist to remember them when the physical examination of a patient is being made and particularly when foci of infection are suspected.

(1) **Local symptoms:**—Patients with infection in the prostate and seminal vesicles may be free of genitourinary or localizing symptoms. This has occurred frequently in my group of patients. When foci of infection are suspected or when the symptoms present indicate possible infectious origin, I consider the physical examination of the male incomplete without repeated thorough study of the prostate and seminal vesicle secretions. This group of patients without local symptoms is of special interest to general practitioners and internists because the condition may go undiscovered unless it is searched for. Local symptoms that I have observed are: Pain or ache referable to the prostate, the bladder, the perineum, the groins, the testicles, suprapubic area, down the legs, root of the penis or in the back. Frequently the patient complains of a full feeling and will sometimes place his hand directly over the location of the seminal vesicles.

(2) **Urinary symptoms:** Urinary symptoms are frequent in my group of patients with infections of the prostate and seminal vesicles. The muscle of the bladder and its innervation may be the same. Infection of the prostate may produce frequent, urgent, painful urination which is most noticeable in the acute stage, where swelling is definite and congestion is great. When the infection invades the entire prostate, the periprostatic tissue and the trigone of the bladder are involved and produce frequent urination with continuous burning. During infection of the prostate pus may or may not be present in the urine or it may be present at times and not noticeable at other times. Pus may be present in the urine

after sexual excitement, after heavy lifting or other strenuous exercise, because during such activity enough pressure occurs on the prostate and vesicle areas to express some of their contents. A few pus cells in the urine of patients without urinary symptoms, who have had gonorrhea, have been recognized for many years as the usual result of an old urethritis and are without significance. Since the recognition of the prostate and vesicles as harbors of latent infections, everyone of my patients who has pus cells in the urine, no matter how few, has a complete examination of the prostate and seminal vesicle secretions for evidence of foci. A constant urethral discharge may occur because the vesicles or prostate or both may constantly reinfect the mucosa of the urethra. The constant morning drop of post-gonorrheal patients is frequently secondary to chronic infection in the prostate, gonorrheal or otherwise. Patients who complain of constantly recurring urethritis following intercourse may have a chronic vesiculitis or prostatitis. The prostate and seminal vesicle secretion should be examined in every case of stricture of the urethra. In some instances patients complain of burning urination only after infrequent intercourse, which means that the prostatic urethra must suffer from infection of the prostate and seminal vesicles. Men between the ages of 40 and 50, who have to arise at night and pass their urine, very frequently have an unsuspected infection of the prostate, even with a negative urine. Many patients who are now being subjected to prostatic resection because of urinary symptoms, and the finding with the urethroscope of a moderate enlargement of the prostate, particularly the mid-portion, many times have infection of the prostate, which is easily relieved by massage or appropriate treatment.

(3) **Sexual symptoms:** The most common complaint of patients in this group is sterility, which occurs because chronic infection of the prostate interfered with the motility of their spermatozoa. Patients may complain of the sensation of incomplete sexual intercourse without satisfaction. Sometimes patients have little or no orgasm at the time of intercourse and complain of decreased sexual desire. In studying the histories of these patients one may find that their sexual symptoms occurred during, or shortly after, some severe extragenital infection which had involved the genitourinary tract. The prostate became infected and because it has poor drainage, symptoms developed. A continuous congestion of the verumontanum and posterior urethra may occur secondary to chronic infection in the prostate and vesicles so that some patients have frequent desire for intercourse and premature ejaculation. This group may have a continuous itching, smarting feeling of the deep ure-

thra that is never relieved and may or may not be associated with urinary symptoms.

(4) **Symptoms involving the nervous system:** In this group I have classed all patients having nervous or mental symptoms or disturbances directly referable to the genital tract and produced by infection in these organs. I have included pain and neuritis of distant nerves that have responded to the treatment of infection in the prostate and seminal vesicles. The nerves of the shoulder and arm are frequently involved and sciatica occurs often.

Under general symptoms we might for a few moments consider pain. I have seen pain referred in some instances to the posterior iliac spine, the inner side of the thigh, the groin, the lumbar and sacral areas, Poupart's ligament, down through the inguinal canal to the testicles, and even as far down as the soles of the feet. Dr. T. E. P. Goucher, reporting in *Northwest Medicine* for March, 1935, found on an average of 11.4 per cent of 487 cases in which the prostate caused the pain and in which treatment either improved or cured the condition.

Many patients have symptoms which at first are hard to interpret or explain. Some men attribute their symptoms of nervousness to a peculiar sensation comparable to ungratified sexual desire, which is continuous. This causes inability to concentrate on their work, irritability, lack of initiative, no energy, no force, sometimes melancholy or excitability, and often depression. Some writers mention a disturbance of endocrine function of the prostate or its effect on the testicles as the causative factor that produces these symptoms. The symptoms may not be produced entirely by a disturbance of the endocrine function of the prostate or the testicular hormones but to a disturbance in the relationship that exists between the various endocrine organs.

(5) **General and constitutional symptoms:** Patients sometimes come for examination with no definite complaints or symptoms, stating that they are "under par." Occasionally there has been some weight loss, but more often the patient complains of not feeling well without any definite localizing sign or symptom. They may give a previous history of a severe influenza, prolonged and severe respiratory infection, infected sinuses or infected tonsils or teeth. Many of our patients who have given this indefinite history have had undiscovered and unsuspected infections in the prostate or seminal vesicles or both. The route of infection was through the blood stream from other foci, such as teeth and tonsils. The prostatic infection may have produced no local symptoms but it may be the focus that produces metastatic lesions in other organs or tissues. With no other discoverable lesions and with

relief from symptoms after treatment, infection of the prostate and vesicles may have been the cause of these indefinite symptoms.

METHODS OF EXAMINATION

Physicians not accustomed to searching for prostatic infection may not find this condition if a careful examination is not made. A history of previous or recent venereal infection is not a necessary etiologic factor with infection in the prostate and vesicles.

The consistency, topography, size and position of the prostate and vesicles are noted before massage is begun. An infected prostate can feel normal to the palpating finger. Bimanual examination of the prostate and vesicles should always be made. This method of examination is important and may reveal conditions that cannot be discovered by other examinations. Careful examination of both vesicles can rarely be made except by this method. The diagnosis of infection in the prostate and vesicles depends in most instances upon the examination of the expressed secretion from these organs. Vigorous massage may not produce material for examination and may spread infection from a local area to many others. Gentle massage that is thorough and that may be repeated two or three times before negative results are accepted is better than a prolonged rubbing that produces bleeding, fainting and collapse of the patient. I produce continuous, firm pressure over hard areas and rapid-stroking pressure over other areas. Each massage stroke should start from the rim of the prostate and be directed toward the urethra. After every area of the vesicles and prostate has been covered by the massaging finger, I make pressure several times toward the external urethral meatus along the prostatic urethra so that I may expel into the urethra the material from the prostate and vesicles. This expressed material is caught at the urethral meatus (which had previously been cleansed) into a sterile medicine glass or directly on a glass slide and is examined freshly under high power. If cultures are to be made, the urethra and bladder are previously washed with sterile water, the meatus thoroughly cleansed, and the expressed secretion is allowed to drop directly into culture tubes.

The number of pus cells per high power field is our index of the severity of the infection. If more than five or six are found, the patient is re-examined following the internal massage of the prostate, which is accomplished by dilatation with the curved Kollmann dilator. I must emphasize the importance of internal massage of the prostate with this instrument. It not only massages the prostate from the urethral side but opens the ducts by squeezing out plugs, etc. The examination of the prostate and vesicles for foci

may not be complete without this manipulation. Treatment cannot be carried on successfully without the use of this instrument. If foci of infection are suspected and none are found, or if the palpating finger finds suspicious areas in the prostate and no pus cells are found in the expressed fluid, the dilatation of the prostatic urethra with the Kollmann dilator is necessary in every instance.

TREATMENT

The results of treatment of chronic infections in the prostate and vesicles should be sufficiently positive and prompt to prove that they are the foci producing the pathology under consideration. In some instances, after a few treatments results seem miraculous while at other times they are disappointing. The treatment consists first in the removal of all demonstrable foci of infection in teeth, tonsils, etc.; in massage of the vesicles and prostate, both through the rectum and by means of the Kollmann dilator in the urethra; the application of heat through the rectum by any means; the use of foreign protein shock therapy; the local application of medicines into the urethra; and the direct introduction of drugs into the prostate and vesicles, either by needle through the perineum or rectum or through the vas deferens; and the instrumental drainage of cavities on the prostate through the urethroscope. These methods, together with the usual hygienic treatment to increase the tone of the body generally, should improve conditions that are the results of foci of infection in the prostate or seminal vesicles. In some instances there is no improvement after many months of treatment. This may be because the pathology has been present for a long period of time and scar tissue has formed making relief slow or at times impossible. In some cases I find that other foci have been overlooked and these act as constant re-infectors of the prostate, making it impossible to clear up the infection until these are eradicated. Frequent re-examination for teeth and tonsil infection should be made.

When the prostatic secretion can easily be obtained by massage, indicating that drainage is good, and when little improvement results from the treatment, I insist that frequent recheck for other extra-urinary foci be made. Many patients are frequently massaged with moderate secretion after each massage and still no improvement is noted. This may occur when no other foci are demonstrable. Many times I have found that the internal massage of the prostate with the Kollmann dilator has opened areas in the prostate that were not draining and thus brought about an improvement of symptoms. When eye lesions or heart conditions are present, treatment or examination must not be vigorous because

reactions may occur which may activate the metastatic lesions so that additional damage to tissues may occur, or death may ensue.

Smears of the secretion obtained after massage should be made frequently in order to follow the progress of the treatment. Not only the the number of pus cells should be studied but the character of all cells and other material obtained on the slide should be noted and evaluated. The grade of the infection may be estimated by the number of cells per high power field, as follows:

Grade I: 5 to 15 cells per high power field

Grade II: 15 to 50 cells per high power field

Grade III: 50 to 100 cells per high power field

Grade IV: 100 & over cells per high power field

The presence of lecithin crystals in the smear means that some parts of the prostate are functioning normally. An increase of these crystals means that the prostate is overcoming the infection and larger portions of the gland are resuming normal function. Degenerated cells mean suppuration; clumps of cells mean continued activity of the infection or poor drainage. The appearance of lymphocytes in the smear means that reparation processes are beginning and that massage may be stopped, as it is certain that healing will be complete in a short time. Rest periods should be prescribed at this time and at other times after active treatment has been in progress for two months. Complete relief from infection frequently follows one of these rest periods. The urologist who undertakes to treat prostatic infections should have the help of some medical and nose and throat colleagues who will cooperate in checking lesions and their improvement and make re-examination to consider the possibility of other extra-urinary foci.

CONCLUSIONS

Chronic non-gonorrheal infections in the prostate and seminal vesicles have an added significance when we know:

(1) That they occur more often than is usually recognized.

(2) That they may give rise to no local symptoms.

(3) That they may have no relation to, or follow, gonorrheal infection.

(4) That they may remain unrecognized even after the genital tract is examined.

(5) That in many instances repeated examination, together with provocation, may be necessary before the infection may be discovered.

(6) That about 90 per cent of these infections are hematogenous in origin.

(7) That prostatic and seminal vesicle infection may be a focus and have an etiological relationship with infectious metastatic foci which produce chronic disease in any organ or tissue of the body.

National Tuberculosis Ass'n. to Meet In New Orleans

The annual meeting of National Tuberculosis Association, to be held in New Orleans April 22 to 25, offers a rare educational opportunity to the Mississippi medical profession. All doctors, nurses, technicians and other interested persons are invited to attend. No registration fee is to be charged and membership in the association is not required.

Subjects to be discussed range from the profoundly scientific to the everyday problems arising from tuberculosis. They include findings in research relating to causes, diagnosis and treatment. Special attention is to be given the epidemiology of the disease, tuberculosis in the childhood, adolescent and the college student groups, tuberculosis as related to economic security, tuberculosis among different peoples, and practicable ways of putting to work our present knowledge of the disease.

The meeting is to be held in four sections, viz: Pathological, Clinical, Sociological and Administrative. Space does not permit publication here of the entire program, free copies of which may be had by post card request to Mississippi Tuberculosis Association, Sanatorium, Miss.

Tennessee State Medical Ass'n.

The one hundred third annual meeting of the Tennessee State Medical Association will be held in Memphis, April 14, 15, 16, 1936.

The physicians of Mississippi are invited to attend all of the sessions.

No registration fee is charged for guests or members.

All visiting doctors are given the privilege of the floor in the discussion of all papers.

A strong program is being arranged and will be issued early in April. Copy of the program will be sent to those who request it from Dr. H. H. Shoulders, Secretary, Tennessee State Medical Association, 508 Doctors Building, Nashville, Tenn.

Neisserian Meeting

The American Neisserian Medical Society will hold its second annual meeting on May 18, 1936 in the Hotel Statler, Boston, Mass. All who are interested are cordially invited.

THE MISSISSIPPI DOCTOR

The Journal with a vision, the delivery of modern medicine to the masses at less cost to the individual and more profit to the practitioner. The champion the small hospital, the hub around which this service must be built.

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The per capita distribution of state funds for the indigent sick is now a reality. We are delighted after having been active in the advocacy of this plan for a decade. The bill was not passed just as advocated by the hospital and medical associations. The compromises were probably wise at this time. The rank and file of the members of the legislature went to Jackson, sold on the principle of this bill. They were determined not to be side tracked. The governor listened with a reasonable ear. Drs. Philpot, Gardner, Gamble, and Nobles are due much credit for the time spent and the effort put forth during the entire session. We should appreciate their services.

The governor is to appoint a hospital commission to pass on the standards of the hospitals and to advise generally on the administration of the funds. He will also appoint three trustees for each county to approve the bills. The family physician and two citizens must vouch for the patient in the beginning, say whether or not he is an object of charity. The first responsibility will rest upon the com-

mission. In passing on the eligibility of the hospital, the safety of the patient must be the first consideration. The qualification of the medical staff is of the greatest importance. There may be quite a difference between a surgical technician, and one who has had a good medical background, has surgical judgment, surgical honesty and an unselfish interest in the sick patient. The nursing staff should have technical training, known as "aseptic line" and how to stay on it and it should have a broad interest in the profession and the patient. The hospital should have sterilizing and other facilities sufficient to safe guard the patient. No hospital should be denied participation in this fund on "non-essentials." The participating hospital should show the right spirit about this fund and toward the indigent patient. The fees may not quite pay the actual cost of the unfortunate sick man, but if the hospital is participating it should show every consideration to the patient. Kind and courteous treatment is a duty it owes the patient. It owes every consideration to every patient for the patient's sake. It owes this courtesy to the legislature and to the governor and to the future good of this system that we are adopting. The most important cog in the wheel of this system rests upon the shoulders of the family physician and the "citizens" who sign the application to the hospital declaring that the patient is really and truly an object of charity. This little sum of twelve and one half cents, the price of two and one half soda pops will not take care of all the people in the community who do not have money in their pockets when they chance to "feel badly." This little fund should be used for the acutely ill patient, for the emergency case, the one who has no funds and no possible way of securing any. To make this system a success it is going to take courage on the part of the family physician and the two citizens. They should keep in mind that they are asking the hospital to take a patient at a loss and the physician or surgeon to do his work for nothing. This system should be a blessing to worthy charity and it should weed out the unworthy. The county trustees should be very careful in putting their okeh on the bills, should know that the patient deserves the aid, is actually an object of charity. They should see that the funds are not used too fast, all of it the first month and also that the fund is well distributed over the county. The small hospital and the general practitioner have their opportunity now to see service rendered to the indigent sick. It is our opportunity, our choice to make good, to show that we knew what we were about. Let every agency that has to do with the application of this system of distribution to the unfortunate sick do his full

duty. May each one have the missionary heart of service, but may each also have the courage to say no when it should be said.

Two distinguished and appreciated members return to be with us. Dr. W. A. Evans who is so well known throughout the United States as a health commissioner and a writer has now come back to his old home in Aberdeen to be one of us. He attended our meeting at Starkville and took part in the discussions of our problems. He is indeed a great man in heart, in mind, in soul, and broad in learning. Our society loves him and appreciates him. He has promised to do some writing for *The Mississippi Doctor*. You will await the words from his pen with keen interest. A thousand times welcome back home, Dr. Evans. Dr. James Acker Jr., has returned to Aberdeen to be with us. We extend to him a most cordial welcome. We have missed his activity and his enthusiasm in our society. He served well as president of the Mississippi State Medical Association and as Superintendent of State Hospital, at Jackson. He is able as a practitioner and we are delighted, Dr. Acker, to have you with us to aid and to help.

Letter From Dr. Bryan

In the current issue of the American Medical Association Bulletin there are two very pertinent and interesting articles. One of these is from the pen of Dr. Jas. S. McLester President of A. M. A. and the other from the pen of Dr. Morris Fishbein, editor of the *Journal of A. M. A.* We suggest that every reader of *Mississippi Doctor* read these articles carefully, since they deal with a most important subject—namely socialized medicine.

In connection with this suggestion and thought we will mention a resolution that was passed by unanimous standing vote of the North East Mississippi Thirteen Counties Society at its recent meeting at Starkville. This resolution was offered by Dr. Hunter Scales and was discussed at length. Among those discussing the resolution was Dr. W. A. Evans. It goes without question that Dr. Evans went deeply into the fundamental principles and conditions underlying the present status of medicine and the relations existing between the doctor, the public and the government. The resolution as offered and unanimously adopted pledges the members of this society to refuse to render any medical service to any person on the order from any government agent at a lower figure than the regular local fee schedule. A second resolution (suggested by Dr. Evans) was, also, unanimously adopted, instructing the secretary and president of the society to notify every other component society in the state of the action taken and to

urge that such action be taken by them and to further suggest that all delegates be urged to take the matter up at the May meeting of the State Association at Greenville, with the object of having the delegates to the Kansas City meeting of American Medical Association bring the subject before the house of delegates there. We deem it fortunate that Dr. Fishbein is to be with us at Greenville and if we should show real purpose and unity in this matter, we feel that he might be enlisted in the plan. As an argument for this plan, we only mention the very great injustice to physicians in expecting them to render service to the wards of the government at cut-rate fees while all commodities are furnished them at regular prices. Personally we have consistently refused, since March first, 1934, to accept any orders from the various relief agencies. We have, always, been willing to serve those who are indigent and consequently unable to pay for service. But if the government has adopted these people as wards, we are not willing to render service at a rate below that at which we serve our friends and regular pay patients. Doctors pay taxes and privilege license and this money is used to meet the expense of care and support of these people. Then why should we be asked and expected to contribute our service free or at disgraceful figures? All this program and propaganda heads up into socialized or state medicine. Who are the proponents of socialized medicine any way? The masses are not asking for it. Certainly the doctors do not desire it. Then it must be that only the politicians and the army of so-called "relief workers" are clamoring for it. If and when socialized medicine comes quickly and careless practice of medicine will surely come. The masses who receive this type of service will suffer greatly and the standard of medicine will, inevitably, fall shamefully. The writer of these lines has devoted thirty years of his life to a most consistent and conscientious effort to elevate this standard. And he has been made very happy to see that his efforts have borne some fruit. So it is very painful to him to see that there is prospect of collapse of the structure towards the building of which he has gladly given whatever help he could.

We can not close without saying, as we have said before, there is nothing wrong with the old system of medicine. Doctors have always been willing to care for the indigent and unfortunate. They are still willing to do this. The public has always appreciated us and supported us—it has trusted us and honored us. They have not changed in these respects. The trouble is in the wrecking of economic conditions by the "high finance" group. If our government will see to it that work is furnished those willing to work and compel those who are unwilling to work to do so and see

that a living wage is paid, then all will be well. The remedy lies in the keeping of the masses and must be administered at the polls. Of course education is necessary and doctors must assume their duty as co-educators along with all patriots. Crooked politicians must be rebuked—crooked and inhuman methods of “high finance” must be eliminated. When a few Morgans and such ilk shall have been “driven from the temple,” then we shall hear no more of the “suffering millions” and of socialized medicine.

G. S. B.

The March meeting of the North East Mississippi Thirteen Counties was held at Starkville on March 17th on the college grounds. In the absence of our president, Dr. Dorsey, Dr. F. E. Barr, presided with dignity and efficiency. The entertainment was most cordial. The scientific program was one of the best we have had in a long while. Dr. Henry Rudner of Memphis was the visiting essayist which is synonymous with something authoritative and worthwhile. There were interesting discussions of medical problems. Dr. Scales offered a resolution that was adopted relative to “resettlement practice.” It was decided not to do this practice at the low price which the government is offering.

New Orleans, the South, the Nation feels heavily the loss of Dr. C. Jeff Miller. He was a native of Tennessee. His specialty was obstetrics and gynecology. He possessed a great storehouse of general information. His obstetrical judgment was the very best. His surgical wisdom was seldom surpassed. He was a hard worker, he was resourceful, he was practical. He was a fine medical instructor. He taught others easily because he knew himself. He was a clear and a logical thinker. He knew how to sift out the chaff and put the essentials before the students in a digestible form. The student who sat at his feet was fortunate. The superior benefit he will carry with him all the days of his life. He inspired in the student a desire for the medical truth. He was an outstanding leader in the profession. We deeply regret the going of this outstanding and dynamic medical personality, but we are deeply grateful for his contribution to modern medicine in the interest of human relief.

You can not afford to miss the state meeting at Greenville. It will be good to be there. It will be interesting to be there.

Woman's Auxiliary

TO THE

MISSISSIPPI STATE MEDICAL ASSOCIATION

President	Mrs. Leon S. Lippincott <i>Vicksburg</i>
President-Elect	Mrs. Adna G. Wilda <i>Jackson</i>
Secretary	Mrs. H. C. Ricks <i>Jackson</i>
Treasurer	Mrs. J. W. D. Dicks <i>Natchez</i>
Press and Publicity Chairman...	Mrs. Hugh Johnston <i>Vicksburg</i>

Our state Press and Publicity Chairman is entertaining a young son, who made his advent a few days ago, and it is really such a worthwhile bit of news, mere Auxiliary happenings are trifles. Mention must be made however, of the especially noteworthy organization of the Alcorn Auxiliary. It is a unit of the Northeast Mississippi Thirteen County Society and deserves a lot of credit. The doctors' wives in this unit are organized 100 per cent, with Mrs. C. W. Norwood at their head.

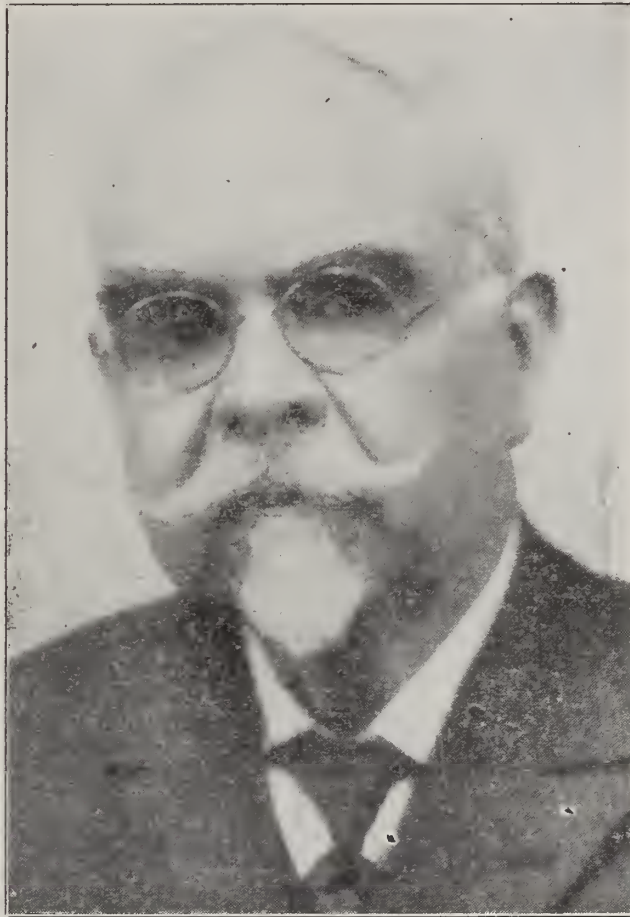
The Prentiss County doctors' wives have also organized, but with more promise than accomplishment. Mrs. L. L. McDougal, the president, is capable and hopes soon to make the county organization one hundred percent.

Mrs. W. H. Cleveland, president of the Northeast Mississippi Thirteen County Auxiliary, attended the meetings in Corinth and Booneville at the time Alcorn and Prentiss Counties organized into individual units. Delightful luncheons made these events pleasantly social, inspiring a warmth of feeling between the doctors' wives, as the primary purpose of auxiliaries.

The ladies of the Delta Medical Society Auxiliary, and especially the doctors' wives of Greenville are urging the doctors to bring their wives to the State Meeting in Greenville, May 4-7. Mrs. J. A. Beals, always an active member in the auxiliary, has been ill for several weeks, but she promises to get well in time to help with the preparations. Greenville offers many splendid places for diversion, entertainment and dining, that will be catering during the convention to the doctors' wives.

Mrs. Leon S. Lippincott, our state president, has planned a particularly enlightening program, filled with star features. She will have the program ready for the May issue of the journal, but start getting the spring togs together, someone to look after the house and practice while you and your doctor-husband are away May 4-7, and don't miss this most delightful meeting.

Dr. Rudolph Matas Thrice Honored at Surgical Congress



DR. RUDOLPH MATAS

"Dr. Rudolph Matas, 76-year-old world-renowned New Orleans surgeon, was thrice honored at the Southeastern Surgical Congress assembly here Monday night at the Tip Top Inn of The Roosevelt.

He received a decoration and title of commander of the National Cuban Order of Carlos Finlay, and a diploma of honorary fellowship in the Academy of Medicine of Havana, from Dr. Charles Edward Finlay, son of Dr. Carlos Finlay, whose notes and work led to the discovery that yellow fever was transmitted by the stegomyia mosquito.

Dr. Matas also was termed "one of the two outstanding medical lives of a new continent, each dedicated to relieve human suffering," by Dr. C. C. Howard, Glasgow, Ky., vice-president of the congress, in the presentation of a paper, "Conquest of Pain." Dr. Crawford W. Long, who performed the first painless operation in 1842, was the other outstanding American contributor in medical annals named by Dr. Howard."

The foregoing is an excerpt from "The Times Picayune." Dr. Matas is endeared to all Mississippi doctors, who rejoice in every honor which comes to him.

Another, and most important, distinction accorded Dr. Matas is that of his election to the presidency of the International Society of Surgery, at the triennial congress which was held at Cairo, Egypt, during the Christmas holidays. He was elected in absentia, and the news was cabled to him on New Year's Day.

The International Society of Surgery was founded in 1907, and now has 2,000 members representing all civilized countries. Of the twelve presidents of this society, the late Dr. W. W. Keen, of Philadelphia, Pa., and Dr. Matas are the only Americans who have shared the honor. Switzerland, Belgium, Great Britain, France, Austria and Italy have provided the other presidents.

The next congress, over which Dr. Matas will preside, will be held in Vienna in 1938.

Transurethral Resection of the Prostate*

PAUL G. GAMBLE, M.D., F. A. C. S.
Greenville, Miss.

Transurethral resection of the prostate is no longer in the experimental stage. It is fast taking the place of prostatectomy except in those cases where the prostate gland is so large that the resectoscope can not be introduced.

This method has several advantages over prostatectomy.

First: The period of disability following operation is much shorter. Therefore, the stay in the hospital is much shorter. The nurse and hospital bill are greatly lessened and, therefore, the patient is more able to compensate the doctor.

Second: This method is more applicable to a class of patients who therefore were considered inoperable, hence were denied the relief from prostatic surgery.

Patients with angina pectoris who could not be subjected to a prostatectomy can with comparative safety be relieved by transurethral resection.

This operation is also applicable to the patient with broken compensation, diabetes, pulmonary conditions such as asthma and tuberculosis, severe cases of nephritis and cirrhosis of the liver.

Third: Many men approaching the prostatic age come to their physician complaining of having to get up at night to void—one, two or three times. They also complain of slowness to void and lack of force to the urinary stream. These patients know that prostatic trouble is impending. If such patients can be convinced that this operation is safe, the stay in the hospital short and comparatively free from danger and complications, they will seek relief early and avoid the distressing late symptoms of hypertrophied prostate.

Fourth: There is little or no shock in the transurethral resection.

Fifth: Advantages in the treatment of carcinoma of the prostate. The resectoscope is of great value in treating carcinoma of the prostate. Prostatectomy in this type of case is sooner or later followed by recurrence.

There are three or four types of carcinoma of the prostate to be treated with the resectoscope.

1. Cases of recurrence that have previously had a prostatectomy and recurrence of the growth has obstructed the flow. It is possible

to relieve the obstruction with the resectoscope so that complete urinary function is restored.

2. Inoperable cases with suprapubic tube can be relieved so that the unfortunate individual can do away with the tube.

3. Cases of carcinoma not previously treated.

4. After the carcinomatous obstruction has been removed radium or deep therapy can be applied.

As in prostatectomy these patients should undergo preliminary preparation and treatment. The patient should have a thorough physical examination as patients suffering from prostatic obstruction usually have a damaged cardiorenal system. Plain roentgenogram, intravenous urogram and cystogram, also functional test should be done as in prostatectomy. Urea nitrogen contents should be determined.

There is a difference of opinion as to preliminary drainage of the bladder. If the bladder is clean or comparatively free from renal infection and function good some authorities claim it is not necessary to drain the bladder before resection. However, if the bladder is infected and renal function below par all agree that it is essential to drain the bladder, and this is very important if the residual urine is very large and the bladder infected. If the residual urine is small, the bladder clean, and kidney function good, one may operate without drainage.

The preliminary drainage may be accomplished in three ways.

1. Repeated catheterization—When this method is used one should adhere strictly to all aseptic principles. If you do not your patient will have an added infection.

2. Indwelling catheter. This is the method of choice. A small catheter is used and care to avoid injury to the mucous membranes of the urethra should be exercised. Daily bladder irrigations and instillations of antiseptic solutions into the bladder.

3. Supra-pubic drainage is used in those patients who will have to undergo drainage for a long time and cannot be treated with indwelling catheter, as the indwelling catheter when worn for a long time will set up a urethral discharge and possibly cause periurethral abscess and epididymitis. At times it causes severe bleeding and strangury. The indwelling catheter may provoke chills and fever in a short time. It may be necessary for the patient to wear the suprapubic tube for months. The bladder is irrigated daily.

After the instrument has been introduced with as little traumatism as possible the operator should resect cautiously, taking note of the location of ureteral ridges, meatus and verumontanum, and checking the position of these often during the resection.

With the instrument in place the middle

*Read before the Section on Surgery at the Sixty-Eighth Annual Session of the Mississippi State Medical Association, Biloxi, May 15, 1935.

zone of the floor of the urethra is reamed out, completing the cutting and coagulation of bleeding vessels in this area before starting on the lateral lobe, which is treated in the same way as the middle zone, care being exercised to stop all bleeding when first noticed.

After sufficient tissue has been removed a permanent catheter is fastened in the urethra and the bladder irrigated often to prevent blood clots from forming in the bladder. If bleeding occurs and cannot be controlled by irrigation it will be necessary to coagulate the bleeding point and if the bladder is filled with clots it will be necessary to do a suprapubic cystoscopy, emptying the bladder of clots and controlling the bleeding by cautery and packs.

The postoperative care consists in keeping the bladder irrigated often in order to keep down infection, and prevent blood clots from forming in the bladder. Kidney function should be checked and if found failing the patient should have glucose intravenously and fluids forced by mouth.

The catheter is usually removed at the end of forty-eight hours. There may be no trouble in voiding after removing the catheter in a large percentage of cases. However, if the patient does not empty his bladder completely it will be necessary to catheterize him at intervals. Failure to empty the bladder is often due to swelling or edema in the field of operation and when this subsides the patient is usually able to empty his bladder.

Complications—Hemorrhage may occur if not controlled by cautery; may necessitate opening the bladder and using a bag. Epididymitis is a very troublesome complication. It can be prevented by severing the vas before operation following principles of asepsis in the preliminary treatment. Incontinence usually happens if too much tissue is removed or the electrone is allowed to come in front of the verumontanum. Too deep coagulation may cause incontinence due to slough extending into the sphincter. Extravasation of urine may occur and if it happens drainage should be instituted at once. Perforation of the bladder is a rare accident.

It may be difficult to determine how much tissue to remove. However, enough should be removed to relieve all obstruction from the three lobes. It is better to remove too little than too much. You can go back the second time and remove sufficient.

The anesthetics of choice are either, spinal or sacral and parasacral. I find that the sacral acts very well and as a rule will last longer than spinal. I never use general anesthesia.

CONCLUSIONS

The operation is much safer than prostatectomy.

The period of disability is shorter, conse-

quently the cost to the patient less.

Men will seek relief earlier.

Diagnostic Clinics As An Aid In Preventing Tuberculosis*

WILLIAM D. HICKERSON, M.D.
Sanatorium, Miss.

For many years, diagnostic clinics have been considered important factors in all well rounded tuberculosis control programs. They were probably first recommended and put into use in this country by Dr. Hermann M. Biggs (1), in 1904. Dr. Biggs was at that time General Medical Officer with the New York City Health Department. He recommended and put into practice many of our present day methods for preventing the spread of tuberculosis. In 1893, eleven years before he established his first dispensary, he advised the reporting of all cases of tuberculosis by physicians and institutions. This regulation he succeeded in having passed in the face of great opposition. There is probably no American who has contributed more to the prevention of tuberculosis than did Hermann Biggs. He realized more than forty years ago that existing cases of tuberculosis must be unearthed and carefully supervised to prevent spread to others. Ideas differ as to the type of diagnostic clinic which is the most effective. Regardless of the type, the principal fact which justifies its use is that we cannot hope to prevent the spread of this disease unless we discover those who suffer with it.

When we consider tuberculosis as a preventable disease, we must remember that we have found no specific, vulnerable spot in its protecting armour as we have found in certain other diseases such as typhoid fever, diphtheria, smallpox, and yellow fever. Taken alone, any one of the preventive measures may seem inadequate, but viewed as a whole, they are proving effective in preventing the spread of tuberculosis. No one control method can stand alone. There must be a close tie-up between all agencies that a united front may be presented to this common enemy. The family physician still remains the strongest bulwark in the first line of defense. It is he who diagnoses, reports, and treats most of our tuberculosis. The effectiveness of any control measure, including diagnostic clinics, can be measured by the support and cooperation which the physicians of the community give to it. The chest clinic should offer a diagnostic and consultant service to all phy-

*Read before the Section on Hygiene and Public Health at the Sixty-Eighth Annual Session of the Mississippi State Medical Association, Biloxi, May 15, 1935.

sicians. Its policies should ever be such that each physician can lend his wholehearted cooperation and support.

Difficulties in preventing the spread of tuberculosis arise because of the peculiar aspects which this disease presents. Its onset is slow and treacherous. Its course is not such as to stimulate initiative on the part of the sufferer to seek medical aid in the early stage of his disease. We can predict to a degree of certainty what many other infectious and contagious diseases will do. This is not true of tuberculosis because of the long interval which elapses between infection and the manifestation of disease. There is no fixed incubation period for tuberculosis. Regardless of all efforts, a majority of the new cases reported are in the advanced stage. There are many persons unknown to us who have advanced disease and yet do not consider themselves ill. Because of these peculiarities, there is always a large group of unknown carriers of the tubercle bacilli in a community. Information gained from various tuberculosis surveys places this number of unknown carriers at from thirty to fifty per cent of all cases in a community. The finding and putting under observation of these undiscovered carriers and potential carriers is one of our major health problems. The finding of these unknown cases should be one of the principal functions of a diagnostic clinic. The ideal is to find them early before they have become fountains of infection and while we can still offer them hope for recovery. Finding these unknown cases and finding them early is the key-note in the prevention of tuberculosis.

There are many different types of chest clinics. In the large cities they are permanently situated, manned by trained physicians, and thoroughly equipped to make diagnoses. In the rural communities, they must of necessity be mobile units. These clinics are under the supervision of a trained clinician assisted by a technician with portable X-ray. In some states the motorized truck is used in which the complete examination is conducted, including the taking of X-ray pictures. In all states, these clinics are integral parts of the control program and are under the direct supervision of the director of this division.

Time does not permit of a more detailed analysis of any one of the above methods. From a study of the best features of clinics being conducted in other states, the plan for Mississippi's diagnostic clinics was evolved. These clinics have been in operation since July 1, 1934, and while it is difficult to evaluate any single preventive measure, we can, by analyzing the results thus far, obtain some idea as to their value. Mississippi's diagnostic clinics differ in many respects. They are first and last a diagnostic service for the practicing phy-

sician, and only patients referred by him are examined.

These clinics are fostered jointly by the Board of Health and the State Sanatorium and are under the immediate direction of the superintendent of the Sanatorium. The X-ray films used in the clinics are furnished locally by the tuberculosis association. The portable X-ray equipment was donated by the Commonwealth Fund of New York.

It was felt from the beginning that it would be best to make each clinic conducted in a county a complete work within itself. In most states, these clinics are scheduled for one day only. In Mississippi, the clinic is scheduled for a period of five days in one county except in a few instances, where, due to their proximity and a desire to serve more counties, the clinic week is sometimes divided between two counties. This more permanent set-up has proved most gratifying. It permits a more finished product, it stimulates local interest, it lessens travel, and makes for efficiency. It makes the clinician available for consultation service while in the county. It gives time for educational talks to lay groups. It nurtures a spirit of understanding and partnership between the clinician and the physicians of the county. In states where clinics are conducted for one day only, time does not permit of such a close tie-up.

Our clinics are scheduled in a county weeks ahead so that the county health officer and his staff will have ample time to prepare for them. It is urged that patients who are referred to the clinics be carefully selected from certain definite groups. We have learned by experience that the greatest number of cases will be found among persons in immediate contact with tuberculosis, or who recently have been in contact. Certain individuals who have been examined by their family physician and found to have suspicious signs are also referred to the clinic. In addition to these, children found to have positive tuberculin reactions are examined, and certain known cases of tuberculosis are checked over to determine what progress has been made.

A maximum of ten patients are scheduled daily. A detailed history of illness and contact is obtained, and a careful chest examination is made. No X-ray is made of a patient unless it is requested by the family physician, who states that the patient is unable to pay for this service. To avoid weary waiting, each patient is given a definite hour to appear for his examination. In the conduct of the clinic, good management, tact, and deference for all patients is the watchword. No patient is permitted to go through the clinic without having received some advice about the prevention of tuberculosis. It is drilled into each one of them that it is an infectious and cur-

able disease. They are advised of the necessity for early diagnosis. No mention is made of the diagnosis or treatment, this information being later transmitted directly to the family physician. Physicians are cordially invited to attend the clinic with their patients, which they do in many cases.

At the end of the clinic week, the films are read at the Sanatorium, and reports are prepared on each patient. This report contains the physical signs, an objective interpretation of the films, the diagnosis, and recommendation as to the future care of the patient. The report is given to the physician for his files. The clinician then returns to the county with the X-ray films, and each physician is given the opportunity to view the plates of his patients. In some instances, the physicians of the county gather in a group for a round table discussion of all of the films. This method has never been put into practice in any other clinic set-up. It is one of the most satisfactory phases of the Mississippi plan. It eliminates misunderstanding, and it stimulates a greater interest in diagnosis, treatment, and prevention.

During the past ten months, twenty-five clinics have been conducted. Thirteen hundred persons have been examined, and all but 140 of these have been X-rayed. An average of 52 patients were seen in each clinic. The 1300 patients were divided as follows: 660 white adults, and 351 white children; 191 negro adults and 98 negro children. Two hundred and fifteen, or 15 per cent of the total group, showed lesions of the adult type of tuberculosis. One hundred and fifty-six cases of the childhood type of tuberculosis were found. The large majority of this latter group were free of symptoms. The discovery of such cases mean that the family physician has them under observation years before the age when the symptoms of manifest disease may be expected to develop. Concentrated effort can now be put forth to prevent further contact with an open case to maintain good nourishment and to remove defects. Of the 191 negro adults who were examined, 50, or 26 per cent of this group had tuberculosis. Most of these were advanced, sputum-positive cases at the time of the examination.

A detailed statistical analysis of all the material collected is not indicated in this discussion. By studying the adult cases that have been found, we may gain some idea as to the value of these clinics in preventing the spread of tuberculosis. Of the 215 adult cases, 86, or 40 per cent, had apparently not been previously diagnosed. There was nothing in their history to show that they had been informed of their condition, nor had they been reported to the local health department. The large majority of these had never been to their phy-

sician for a chest examination. Many of them were sputum positive at the time they were seen in the clinic. One hundred and seventeen of the total cases showed advanced lesions, and 98 were classified as having minimal lesions. The proportionate large number of minimal cases may be accounted for by the fact that many of these cases had been previously diagnosed and had had at one time more extensive disease, but had recovered. Moreover, many of them could not have been diagnosed without an X-ray. A larger number of advanced cases was not found because most advanced cases were already known and were not referred to the clinic.

I have selected a few of the advanced, sputum positive cases from the previously unknown group whom I should like to present at this time. They are selected because of their occupation which placed them in close contact with and made them a definite menace to many others. By different methods of isolation, contact has been broken in all of these cases. As has been mentioned above, they were all advanced, with tubercle bacilli in their sputum when discovered.

Case I: is that of a colored male 24 years of age. For the two years previous to his diagnosis, he had been working as a meat-cutter in one of the most up-to-date meat markets in the state. He complained that going in and out of the ice box had kept him with a cold of several months' duration. This patient was immediately put to bed at home.

Case II: is that of a white girl twenty-one years of age, who at the time of the examination, was working in a beauty parlor. For several months before she was found, she manifested all of the symptoms of an advanced case of tuberculosis. She was immediately removed from her position and isolated in a sanatorium.

Case III: is that of a white male 28 years of age who gave his position as that of a barber, an occupation that he had held for eight years. He was classed as a moderately advanced case. He was immediately removed from his position and hospitalized in the State Sanatorium.

Case IV: is that of a white male 55 years of age, who gave his position as a loom-fixer in a cotton mill. He had held this place for two years, and during all of that time, had been coughing and expectorating. He is now isolated in a tuberculosis cottage in his own front yard.

Case V: is that of a colored female 37 years of age, who had been cooking in one home for four years prior to the time of the examination. She had had definite symptoms for eight months before she was seen in the clinic, and on examination she was found to have a bilateral, far-advanced case of tuberculosis. She

was immediately isolated and put to bed in her own home.

Case VI: is that of a colored girl 14 years of age. She was at the time of the examination a student who attended school regularly. Her symptoms dated back four months. She was at once isolated and put to bed at home.

Many other similar cases could be cited. Infectious cases in menacing positions have for many years been known to exist. Until they are found and isolated, prevention of tuberculosis will remain a difficult problem.

What is to be done with these cases after they are discovered is one of the most frequent questions that is asked. This problem is not as yet solved. Many of these cases of tuberculosis will never be a menace to themselves or others. All of the 215 positive cases are receiving some kind of care and observation. Twenty-five of the active cases have been hospitalized. Many more have been isolated in cottages or in the home. With the help of lay organizations, cots and beds have been secured for scantily furnished homes so that no open, infectious case of tuberculosis has been permitted to continue sleeping with any member of his household. Contact has already been removed in many cases by death. All positive cases know of their condition and know that they are potentially dangerous to others. It is firmly felt that the majority of them are at least partially heeding the advice they have been given.

We might now ask ourselves what effect these clinics are having. First, they are stimulating a renewed interest in prevention. They are stimulating more careful chest examinations, more thorough reporting, and a more general practice of making sputum examinations for diagnosis and to indicate whether or not a patient is infectious. They are increasing tuberculosis consciousness in a community. There has been an increase in knowledge as to the value of the X-ray in diagnosis. This is evidenced by an increased demand for chest plates on the part of persons in the communities who are able to pay for this service. The clinics have permitted of a more careful selection of patients for hospitalization, and a more scientific handling of all cases.

One cannot fail to see the value of diagnostic chest clinics in preventing tuberculosis even though the diagnostic clinics which have been developed in Mississippi are new and there is still much to be desired. They should extend to more localities and reach a greater number of people. There is a crying need for more work among negroes. Scores of negroes are dying from tuberculosis in Mississippi yearly without the services of a physician, and while this race represents half of our population and are our most serious sources of

spread, only 21 per cent of the total that have been examined are negroes.

The use of the tuberculin test in diagnosis should be more widely used. In many counties, no tuberculin testing is as yet being done. It is probably the one most important diagnostic method in children. Much time and expense can thus be saved by screening out the non-infected children. This method should not, however, be instituted unless we are willing to thoroughly explain its significance, i.e., that a positive reaction indicates only the presence of infection.

As time goes on, these defects will be ironed out.

Though we cannot expect that the institution of any single preventive measure will materially change the death rate in a few short years, these clinics, the primary aim of which is prevention, must take a growing part in the relentless war against tuberculosis.

BIBLIOGRAPHY

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DISCUSSION

DR. W. E. DENMAN (Greenwood): I want to commend Dr. Hickerson for this excellent paper he has given us this morning on the health clinic. It was my privilege to see his work in one of these clinics and the very beneficial results therefrom. I think that we have struck the keynote of the foundation principle towards the eradication of tuberculosis. We had a death rate the past year from typhoid fever of 66 in this state, and from tuberculosis 1900. I haven't the figures on comparison of the cost and the expenditure and outlay for the prevention of the typhoid, but I am sure that it must be ten times as much as we are spending for the eradication of tuberculosis. I wish that Dr. Hickerson could do the work of ten men. He has only held 25 clinics in the past ten months I believe. We should have one in every county to get results, and we would get results rapidly for we have made rapid strides in the past few years in the method we have used, but if we could hold a clinic in each county every three months we would get results. The people are interested and are glad to go to these clinics. A few years ago they would run from it, but now they want to find it early; they realize and have been taught that they can be cured, and if they have any hope they are accepting a chance to do something and do it early. If we had an appropriation, or some benefactor would put up a fund to employ a competent man in the state for a period of three weeks in each county, get the contacts isolated and cure the ones that are beginning to break down, it would not be a great while before we could reduce tuberculosis down to the level with ty-

phoid.

I want to say here, gentlemen, and I want you to watch this, that our greatest menace—the patient who is carrying over the country and giving us the most infection of tuberculosis in my opinion, having watched them over a number of years—is the patient from 50 to 75 years of age. They are resistant to tuberculosis; they carry it on for years! every fall when it begins to turn cold, they begin to cough and go down and have what they call “flu” two or three times during the winter months, and they are infecting the children in their homes, and their communities, and you can trace these cases to the old fibroid tubercular patient who has lived for years and given it to hundreds of others. They just can’t or just won’t die, but if we can catch those patients and train them and teach them to protect others, we can soon make wonderful strides. I want to thank Dr. Hickerson and the State Board of Health and the Sanatorium assistant for the wonderful work they have done and hope to do in the future.

DR. W. R. MAY (Brookhaven): I do not know that I can add anything to what has already been said except to say that I appreciate what the Board of Health is trying and offering to physicians as well as the people through these clinics. This type of clinic was held in Lincoln county, the first that I have ever been able to get held down there, and out of our clinic we found five definitely advanced cases of tuberculosis, and out of that five we have put three in hospitals for rest treatment.

The point that I thought of when his paper was read is that 1300 deaths occurred in Mississippi last year from tuberculosis. That is appalling to me, and it is a challenge that we ought to be up and working and doing something about. This clinic is in my opinion the thing that should be stressed most. Now, I don’t know who I am hitting at, I know some on our physicians in Lincoln county, but there is one thing in the health program that I am pleading for, that the general practitioner become more interested in this program and help to find the early cases of tuberculosis. We have no authority as health officers to go out and get these people and have them examined unless the physicians cooperate with the health department and refer these cases to the health department, and as a health officer I plead to the general practitioner for cooperation.

DR. FELIX J. UNDERWOOD (Jackson): During 1934, there were only 66 deaths in Mississippi from typhoid fever. This means that there has been constant endeavor and cooperation on the part of health workers and physicians of the state in carrying out a program of education, sanitation, and immunization.

While we had only 66 deaths from typhoid fever, not one from smallpox, and less than 100 from diphtheria, we had between 1300 and 1400 deaths in Mississippi last year from tuberculosis. Further cooperation and more intensive endeavor in tuberculosis prevention are in order.

In the person of Dr. W. D. Hickerson, we have a splendid worker. He is a man of excellent ability as a diagnostician, and has energy and tact. The physicians generally and the people are well pleased with his work. From the demands coming in to Dr. Boswell and me from the physicians of all sections of the state for his services, it is felt that we could use to good advantage right now four Dr. Hickersons in Mississippi.

The campaign against tuberculosis is based principally upon the early diagnosis and treatment and the prevention of the disease among the contacts of open cases. Tuberculin tests and the X-ray are the special agents in early diagnosis. When the laboratory is able to find bacillus tuberculosis, it is an indication that the diagnosis was not made sufficiently early to give the patient the best opportunity for early recovery. Modern surgical procedures in tuberculosis have opened a wide field for the eradication of the heretofore long-continued course of the disease, and if properly applied to early cases will rapidly reduce the mortality rate.

In Dr. Hickerson’s work, no examination is made of the patient except at the request of the physician, and the physician has to state that the patient is not able to pay for the X-ray. I want to emphasize the fact that no patients are examined except those referred to Dr. Hickerson by physicians. No X-ray man can feel that any business is taken away from him because the physicians must certify that the patient is not able to pay for the X-ray.

The program of the Field Tuberculosis Diagnostic Unit is sound, and no fair-minded physician, once he understands the program, will object to it. On the other hand, he will embrace it as an opportunity to do something for his clientele in need of such service, and thus be instrumental in reducing the terrific death rate in Mississippi from tuberculosis.

DR. HICKERSON (Closing): I am grateful for the discussion of this paper and thank Dr. Underwood for his liberal remarks. It is my feeling that the success of the diagnostic chest clinics can be attributed to the cooperation and interest on the part of the medical profession and the fact that this is a much needed service. The number of patients referred to each clinic has always been far greater than we could examine. It seems, therefore, that the value of these clinics will depend to a great extent on the selection of the patients

who are referred to it. Recent contacts with an open case, persons who have been found to be suspicious after a preliminary chest examination by their own physicians, and children with positive tuberculin reactions are the groups who are most urgently in need of this examination.

I should like to say just a word about the examination of the sputum. It is felt that this is one of the most simple, yet one of the most neglected diagnostic methods. The result of sputum examination aids us in prevention, diagnosis, treatment, and even prognosis. It is always best to repeat this examination on any case because of the many sources of error. We should always regard one positive sputum on a case, in the face of several negative ones, with suspicion.

Symptoms and Treatment of Pelvic Injuries In the Female*

R. B. CALDWELL, M.D.
Baldwyn, Miss.

I am bringing up for discussion today the most common and most neglected condition that we have to deal with in the child bearing woman. It is the every day problem of the general practitioner, as well as the surgeon, and one in which the progress of medicine and surgery has improved in but little, for we are neglecting this field of work.

For a number of years we have made great strides in the care and treatment of her baby, for which she has made such a great sacrifice to give it birth, health, and development, all of which I feel has been a great progress in problems of children and their welfare. If we can continue in this work and also begin to look after the mother and watch her as carefully as we do her baby, we will have many more mothers with their children when they are grown men and women.

It will be impossible to go into every pelvic condition that is associated with, or caused by pelvic injuries, but will take the major things and touch them briefly. These are the ones caused by childbirth, and the continued drag that we have in these cases that have gone for a time, and caused a dropping of all the pelvic organs, as well as the abdominal viscera, as we see in so many cases that present such a distressing picture to all of us.

The anatomy of the pelvis and the organs and their relations are not gone into, for I feel that all are familiar with this. If not,

you have your old anatomy. Just for fun some time look this up, and see how interesting it will be just to review your anatomy again.

SYMPTOMS: There are no positive or definite diagnostic symptoms in all cases, and I think that every complaint, and symptom that the patient gives should have our careful consideration, especially the pains and aches that she complains of and seeks relief for. These factors are of no little importance to her, and if you do not find cause and relief, she will be consulting another until she does, and we cannot blame her; we would be traveling.

PAIN: That most all come seeking relief, is usually the major complaint in most all our cases. The fact that the organs of the pelvis are not sensitive to pain, we know that there is some definite pathology to look for, and we know that the uterus and ovaries and cervix are poorly supplied with sensory nerves, except the region of the internal os. The pain may be due to a pulling on the peritoneum, or torsion of the ovary, and the pelvic infections are the most common cause of the so called pelvic pain, and it may be specific or from the old injury, causing the chronic irritation in the vagina, and the gradual extension upward, till the whole pelvis has a chronic congestive irritation, with the pain often referred to the back, and to the sides. We all have been guilty of calling this pain in the ovaries, and letting the patient go with some sedative, not any relief for her, the old trouble go from bad to worse, and some day we have the break that could have been avoided, if we only examine our women better. All pain radiating to the shoulders is of some other cause other than the pelvic organs, as the pains from the pelvis are to the lower back, and radiate to the hips and back.

POSTURE: This is of great importance as we observe our patients, who all have somewhat of a specific type, and can often be diagnosed by their walking, sitting or standing. They all have relaxed abdominal muscles, and a certain stoop that carries a sling to their walk. The whole body has to depend on the muscles of the back to hold the body erect, and it is worth noticing that most all these patients have a characteristic whine when they are describing their complaints, and I often suspect the real trouble when the patient whines in her talk, and when we find these old broken down cases, we will always have this whiny type of voice.

TREATMENT: I shall not discuss the care and treatment during the pregnant period and during labor, as that has been discussed in other papers, but I think the early repair of perineal tears is of the utmost importance, and any one doing obstetrics has no excuse

*Read before the Section on Surgery at the Sixty-Eighth Annual Session of the Mississippi State Medical Association, Biloxi, May 16, 1935.

not repairing an tear, and getting the most excellent results. The patient should be watched for at least ten days to see the good results are obtained.

I think that every patient should have a post partum examination in six to eight weeks after delivery, and a careful check made of the condition of the perineum, cervix, and the vagina, position of the uterus. All ulceration of the cervix cauterized, and if the uterus is displaced, a Smith Hodge pessary can be inserted, and place the uterus in as near normal position as possible, hold it for an indefinite time without discomfort or pain. When the pessary is painful or uncomfortable it does not fit, and should be removed. It is wonderful how quickly they are relieved with a good fitting pessary.

In these early cases when we find the perineum broken and relaxed, it is simple and easy to do the repair under a local anesthetic, and get excellent results, and have a more extensive repair work later, much to the comfort and interest of the patient. But in the old cases of one year or more, the work is best done under a general anesthetic, and the consideration as in other major operations. In pelvic surgery we are to consider especially that the pelvis is as free from infections as is possible to have it, and they are strictly hospital cases.

DIGITAL examination with the fingers in the vagina I think is very necessary that we have in mind the true anatomy, and its relations, not as so often is done just to find the position of the uterus and the cervix, but bear in mind the bladder and its position, the rectum, and the thickness of the perineum, and the support of the perineal fascia that the bladder has. Keep in mind the results that the pregnancy will have in this long pressure on the bladder, by pushing it down, and the bladder in most all cases is pushed almost to the cervix, and often is. When retraction is not complete, and the cystocele is a reality, I think that a metal, or a glass catheter inserted in the bladder, with the hand against the pubis, will point the catheter to the cervix, and the descent of the bladder will be determined.

PERINEUM: The thickness and the tension of the fascia is of the utmost importance, as we have often observed the fascia broken, and the skin and mucous membrane not broken.

Palpation of the ovaries and tubes is noted for any abnormal finding, the position of the uterus, and the position of the cervix, whether the uterus is fixed, or movable, normal, or enlarged, and the pain that may be caused by the moving, or changing the position.

Speculum examination is made and the cervix is noted as to size, ulceration, scar tissue, and the vagina is noted for signs of in-

fection, and scar tissue and the bulging of the rectum.

When this examination is made the findings are analyzed, the patient is informed as to the findings, the treatment outlined, and the expected results if the outline is carried out, and the bad results if not done, and the importance of the post operative care.

OPERATION: The patient has the same examination and consideration in any other major operation, anesthetic of choice is made as to general, local, or spinal.

Cystocele operation is easily done by grasping the cervix with a tenaculum forceps, an alic forcep about one inch below the urethra, and make the incision from the upper-point to the body of the cervix, dissect the mucus membrane back to each side by blunt dissection, sponge on forcep or on index finger, pushing the bladder well up to normal position, and the sutures are taken in the fascia to pull it together to hold the bladder in normal place. The vaginal mucous membrane is cut on both sides to approximate the flaps, so there will be no tension on the sutures, and the flaps had better be loose than too tight.

Rectocele and perineum. The vaginal mucus membrane is caught with an alic forceps at the posterior bulge of the rectocele, the vaginal opening is grasped at the atrophied hymen tips, an incision is made around the lower margin of the vagina, at the junction of the vaginal mucous membrane, the skin and the mucous membrane is dissected back over the rectocele, back to the muscles on each side, and down to the sphincter muscles. When this is well dissected back, all bleeding should be stopped, and you have your fascia muscles, the rectum, and vagina all well before you. The vaginal mucous membrane is cut from each side to the back point of dissection, the first two sutures are taken in the posterior part of the incision in the vagina, then a deep suture is taken, begins near the sphincter muscle on the right, and catching well in the fascia with two hooks with the needle, and again near the posterior part of the incision and on the other side and tying. Some take all the deep sutures before tying, which is operation choice. I prefer not. Again the vaginal mucous membrane is caught with another suture, sometimes two, and the second deep suture is taken just above the other in the same way. The vagina mucous membrane is given another suture and so one, till the fascia is approximated, the perineal skin is closed with as many interrupted sutures as is needed.

When this is done, feel the perineal floor and see if it feels thick and firm as it should. Note that the levator and muscles are not caught with the sutures as they were never together in the mid-perineum, and should never be when you pull them together with

your sutures. You will not have a comfortable patient and the thickened hard mass, in the center perineum may cause irritation and will always break if any delivery is to take place later.

Suture material is not larger than number one chromic and smaller will do as well as there is no tension on the sutures. Personally I prefer number one for this type of work.

Prolapse of the uterus simply relaxes ligaments and the only hope is to make a suprapubic incision, and free the uterus of all adhesions if any be present. The Gilliam operation is the only one that has ever been satisfactory for me, and the others are yours to use if you get results that are relief to your patient. The Gilliam is the fixation of the round ligaments by pushing a curved forceps just under the fascia of the rectus muscle through the internal ring, and grasping the round ligament about the center of the ligament, pulling it up through the ring and anchoring it. On the other side it is caught the same way, and the uterus is pulled about midway suspension between the posterior and anterior walls of the pelvis. The peritoneum is closed in usual way.

Post operative treatment is same for first twenty-four hours in all cases that have general anesthetic, and after the first day they can have all fluids wanted, liquid nourishment and are moved from side to side to rest, and are never kept on back long at a time. The usual antiseptic dressings used as in any surgical dressing.

In conclusion, I have discussed briefly, the most common nagging and annoying condition that our women have to carry today, and if I have impressed any one to look closer into these cases and give them relief, I feel that the time is not spent in vain. The great mortality rate in cancer will be lessened if this one irritation is relieved, and there are many beds now occupied in the asylums today that will be vacant, and those broken down helpless women will not be a problem on our hands as they are now.

DISCUSSION

DR. GEORGE WALLACE (Biloxi): Dr. Caldwell's paper was so thoroughly presented that it does not seem necessary to comment very greatly on it. I think Dr. Caldwell has made a very thorough study of the conditions that present in the handling of these cases. I think we should be very proud of having the subject so ably presented.

We know that a torn perineum which causes so much trouble in the female is a psychic, physical, economic and social problem. Those different subjects could be carried out in a lengthy discussion but do not belong at this place.

In discussing the tears of the perineum we think of the anatomy as the important necessary thing for the doctor to know. We know that most of the tears occur through the perineal body and in some cases a tear to the rectum. We think of the perineal body as a solid mass of fibro-fatty muscular tissue with its boundary behind the vagina and in front of the rectum.

DR. W. H. ANDERSON (Booneville): I enjoyed Dr. Caldwell's paper. I knew he is doing some very splendid work in this field. The forgotten pelvis, the ones that need repair, in this country would keep all the surgeons busy for a long while to repair them. I am a strong believer in repairing the lacerated perineum at the time of delivery. On an average I think the results are just about as good. Every doctor should carry a nurse with him if possible to help him do what needs to be done. Repair the laceration when the baby is delivered. The patient will not come back later, many of them will not. It is quite important to use a binder from the waist to the middle of the thighs and the pad just under the rectum. This helps to prevent infection. Another most important thing is to make a pelvic examination on your patients. Every female who comes to your office for an examination should have the pelvis examined. If a laceration is found it should be repaired. I thank you.

DR. V. B. PHILPOT (Houston): There is just one feature of this subject that I should like to call your attention to, and that is the post-operative treatment of pelvic repairs. As you know, the cervix and vagina following lacerations are as a rule infected areas, and we some times fail to get results after doing a repair. Now I am sure most of you have read the works of D'Herelle in his discovery of a bacterial destructive agent known as bacteriophage, as well as the favorable report of its use by Albee, who found that it occurred spontaneously in 94 per cent of cases of osteomyelitis treated by the Orr method, and who attributes the splendid results of Orr in the treatment of osteomyelitis to bacteriophage. The method of this treatment is to inject the infected wound with vaseline, sealing up same for many days or weeks and awaiting the action of the bacteriophage, which in many instances is apparently amazing.

Now about a year ago in doing a perineal repair for a patient on whom I had also done an abdominal operation, I packed the vagina with vaseline gauze and forgot to take it out for some ten days. The nurse called my attention to a terrific odor about this patient's vagina, and I thought of the vaseline pack being left. On removing the gauze I found the perineal repair had healed completely.

Since that time I have practiced the procedure of leaving a vaseline pack in the vagina for some ten days following both perineal and cervical repairs, and I find I have gotten much better results. Just whether these results are due to the action of the substance known as bacteriophage I am unable to say, but I would suggest that you give the procedure a trial.

DR. CALDWELL (Closing): I do not have anything I want to say. I thank the gentlemen for the discussion. I would like to stress this—the early repair of your tears when they are done and a check on those patients four to eight weeks afterwards and see what results you have got. If you do repair the cervix, don't go away and not see that woman again until she comes to your office. Watch them better and for at least ten days.

Dr. Wallace mentioned the second tear in the old scar. Personally I have got better results in trying to repair an old tear. The best results I have had is to let them alone and when they are physically able, dissect out that old scar tissue and repair until you get good results.

Resolution

Passed by South Mississippi Medical Society at our regular meeting held in Laurel March 12th, 1936.

At our regular meeting of the South Mississippi Medical Society the following resolution regarding public health work was introduced by Dr. Joe E. Green and after free discussion, all of which was in favor of the resolution and no one opposing, it was unanimously adopted.

Whereas, a series of bills have been introduced in the Senate, (now in session at Jackson) that will practically destroy the usefulness of the State Board of Health, and

Whereas, during the past thirty years the physicians of Mississippi have worked faithfully to build the State Board of Health so that preventive medicine could be carried on successfully protecting our citizenship and at present our State Board of Health is one of the best in the United States and our most efficient Executive Secretary, Doctor Felix J. Underwood is nationally recognized as a public health leader, and

Whereas, at the last three meetings of the Mississippi Medical Association similar legislation has been introduced and each time after full discussion the House of Delegates of the Mississippi Medical Association has overwhelmingly rejected such legislation.

Therefore, be it resolved, 1st: That we, the members of the South Mississippi Medical Society representing about one hundred and seventy-five physicians of South Mississippi

go on record condemning this and any similar legislation that may be introduced in the future that will hinder the fine work being done by the Mississippi State Board of Health under the leadership of Dr. Felix J. Underwood.

2nd: Be it further resolved that we consider this one of the most vicious and destructive thrusts at our public health service of the humanitarian work promulgated by our noble predecessors and which is gradually being perfected by the medical profession.

3rd: Be it further resolved that we urge the legislature to make liberal appropriation for our State Board of Health so that the fine work that is being done now may be enlarged rather than destroyed.

4th: Be it further resolved that a copy of these resolutions be furnished, his Excellency, Governor Hugh White, Lieutenant Governor Billy Snider and Speaker of the House, Horace Stansell, also a copy given to the press.

An Appreciated Letter

Dr. W. H. Anderson,
Booneville, Miss.

Dear Dr. Anderson:

I am deeply grateful to you for a copy of your most excellent journal "The Mississippi Doctor," and I want to express my deep appreciation for this great kindness.

I am a Mississippian and my Chicago friends know that anything from dear "Ole Mississippi" reaches my heart.

I have greatly enjoyed each article and also the interesting advertisements. Most especially the one about Blue Mountain College with the picture of dear Mrs. Berry. To my mind the most outstanding woman in all our land.

I am indirectly connected with the great medical work and this adds interest in the fine work you are doing.

I have three doctor cousins and I am sure you can count on them to help in any worth while cause.

Again let me thank you for your generosity and wish for you and yours health, happiness and unusual prosperity

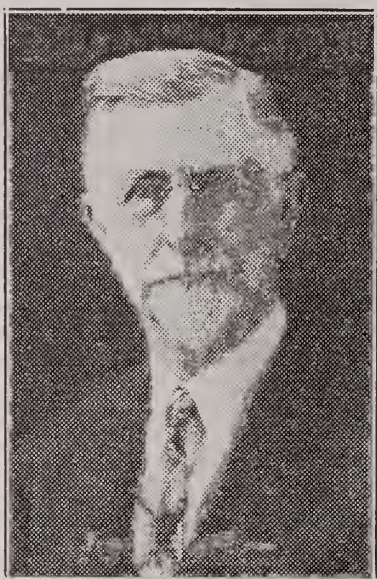
Cordially,

JENNIE M. HARDY.

Chicago, Ill.

Radio talks by famous speakers are at our fingertips practically any hour of the day and by careful listening to orators of ability, it is possible to improve our diction. A fine distinction and good judgment, however, are needed for this method because radio speakers as a whole are often merely famous personages and not models upon which aspirations for better and correct English may be based.

Who's Who In Mississippi Medicine



DR. W. A. JOHNS

Dr. W. A. Johns, of Corinth, Miss., the subject of this sketch, was born in Corinth on May 5, 1869. His early education was received in the public schools of Corinth, Webb school, and Vanderbilt University. He received his medical degree from Memphis Hospital Medical College in 1894.

Doctor Johns was licensed in Mississippi in 1893. Following this instead of taking Greeley's advice, he went South, practicing in Mexico for several months before settling back in the States. Since 1895 he has practiced continuously in Corinth. Formed a partnership with Dr. J. M. Taylor, first president of Mississippi State Medical Society, and his son Dr. C. M. Taylor in 1901. This partnership lasted for a number of years and was later enlarged by two additional members, Dr. J. W. Gilbert another past president of Mississippi State Medical Association, and Dr. W. W. McRae. By mutual consent this firm dissolved partnership in 1912. Formed partnership with Dr. D. W. Hamrick in 1928.

Began exclusive Eye, Ear, Nose and Throat practice in 1912 after extensive postgraduate work at Manhattan Eye and Ear Hospital in New York, New York Polyclinic, and Chicago Eye, Ear, Nose and Throat Hospital. Has been in exclusive specialty practice ever since.

Although he has been a constant and loyal member of organized medicine, he has never sought any official recognition. He has served as vice president of Mississippi State Medical Society, been a delegate to American Medical Association, and served for 20 years as secre-

tary of Alcorn County Medical Society. He was on a special board of examiners during the world war, has always been a loyal member of North East Mississippi, State, and American Medical Associations since their organization. He is also a member of Memphis Society Ophthalmology and Otolaryngology, and the Association Southern Railway Surgeons. He has served as local surgeon for Southern Railway since 1899, and Oculist for M. & O. Railroad since 1912.

In Masonic work he has served in the chairs of all the local York Rite Bodies, and is a 32 degree Scottish Rite. Was Grand High Priest R. A. M. 1913, Grand Master Council 1931, Grand Commander 1932.

Has graduated as a self-taught farmer, and still owns a farm.

Principal hobbies are automobile tours in the summer, and fishing—sometimes catches a fish.

Postgraduate Course In Obstetrics

Sponsored by
MISSISSIPPI STATE MEDICAL ASS'N.
Gulfcoast Section—Eighth Circuit

SCHEDULE OF CLASSES

Laurel (Jones County), Mondays, beginning March 30 at 1:00 p. m. in the South Mississippi Charity Hospital.

Hattiesburg (Forrest, Perry, and Lamar Counties), Tuesdays, beginning March 31 at 12:00 noon in the Forrest Hotel.

Poplarville-Picayune (Pearl River County), Wednesdays, beginning April 1 at 1:00 p. m. First five meetings to be held in basement of the First Baptist Church, Poplarville; last five meetings to be held in Peach Tree Inn, Picayune.

Gulfport (Harrison, Stone, and Hancock Counties), Thursdays, beginning April 2 at 7:30 p. m. in the King's Daughters Hospital.

Pascagoula (Jackson County, Fridays, beginning April 3 at 7:30 p. m. in the Jackson County Hospital.

Time of meetings subject to change by the attending physicians.

OUTLINE

Each meeting will be approximately two hours in length, the first hour for lectures by the Field Clinician, Dr. Maxwell E. Lapham, of Philadelphia, and the second for clinical demonstrations and roundtable discussions. The subjects for the meetings are:

1. Early Diagnosis of Pregnancy
First Prenatal Examination
2. Progress of Pregnancy

Prenatal Instructions

Some Complications of Pregnancy

3. Abortion
4. Hemorrhage in Pregnancy and Puerperium
5. Toxemias of Pregnancy
6. Management of Normal Labor
7. Some Abnormal Positions and Presentations
8. Postpartum Care
- Puerperal Complications
9. Care of the Newborn
10. Gynecological Complications of Pregnancy

Final Puerperal Examination

CLINICAL DEMONSTRATIONS

The course will depend for much of its effectiveness upon the availability of clinical material. Members of the group are invited to cooperate in suggesting patients. The Field Clinician is willing to devote out-of-class hours in consultations and in examining patients at the office of a physician, if requested. This consultation service is limited to educational purposes and it is done without cost. No patients will be seen without the recommendation of a physician and the Field Clinician will communicate with patients only through the physician.

CLASS AIDS AND TECHNICAL SKILL

The Committee on Postgraduate Medical Education has purchased an expensive manikin equipment. Demonstrations of unusual procedures can, therefore, be made to groups when patients are not available.

A 16mm motion picture machine and an interesting film, "Home Delivery," were procured. These proved so instructive that several medical groups requested the picture to be shown for a second time. Dr. Lapham has for distribution mimeographed copies of his lectures, obstetrical history cards, and sheets of prenatal and postnatal instructions for patients. The value of such materials is indicated by the continuing requests for them from physicians.

Technical skill is perhaps easier to command than the additional qualities of personality and teaching ability which Dr. Lapham brought to his work and which are primarily responsible for its splendid success.

Repeatedly, the Mississippi physicians with whom he has been associated have commented upon the effectiveness of the course because of Dr. Lapham's forceful teaching ability.

A cordial invitation is extended to every physician to attend these meetings to evaluate at first-hand the purposes and methods of this educational undertaking.

Resolution



DR. H. M. ANDERSON

Whereas, it has pleased Almighty God to remove from the sphere of human action our friend and co-worker, Dr. Hugh Moran Anderson, who departed this life February 6, 1936, and,

Whereas, we, the members of the medical staff of Mississippi State Sanatorium, desire to honor his memory in a fitting way and to record our feeling of respect and esteem toward him, be it therefore resolved that our secretary be directed to write upon the minutes of our staff meeting as follows:

That we knew Dr. Anderson as an unassuming Christian gentleman who bore his infirmity of body with a courage which commanded the admiration of all with whom he was associated;

That in his relationships as a physician, his own courage provided inspiration to his patients to make a good fight to overcome disease, causing them to "hew to the line" in carrying out the prescribed regimen of treatment. In the art of the practice of medicine he was a past master, as shown in the morale of his patients;

That as a friend, he knew how to help others, his sincere sympathy enabling him to see through the eyes of those whom he sought to help, to understand their problems and to lead them aright in their efforts to regain health;

That as an associate, his life and work inspired us, his co-workers, to more diligent service, a deeper sympathy, and a greater sat-

isfaction in our work.

Be it further resolved that this tribute to our departed friend be signed by all members of the medical staff of Mississippi State Sanatorium, and that a copy of it be sent to his bereaved widow, Mrs. Hugh M. Anderson.

Unanimously adopted and signed at Sanatorium, Mississippi, this the tenth day of March, 1936.

HENRY BOSWELL, Sup't.
C. E. WALKER, Ass't. Sup't.
E. D. KEMP
W. J. C. WIEMERS
W. D. ROSBOROUGH
VIRGINIA B. HICKERSON
Wm. D. HICKERSON
W. H. WATSON, JR.

MISSISSIPPI NEWS

Mississippi State Medical Association

MEETINGS OF THE STATE ASSOCIATIONS

The Mississippi State Medical Association and the Mississippi State Hospital Association meet in Greenville, May 4, 5, 6 and 7. Greenville feels quite proud of this honor and extends to both Associations a most cordial welcome.

The Greenville doctors are especially anxious to make this the largest meeting ever held and are making plans to entertain each and everyone royally. The housing committee already have been quite busy taking care of the large number of reservations made this early. Indications are that this will be the biggest, best and greatest meeting in the history of the Association.

Make your plans now to come for you will be the loser if you miss this meeting.

J. G. ARCHER

DIRECTORY AND CALENDAR OF MEDICAL SOCIETIES

Information is not complete. Secretaries of societies are urged to send in full data so that it may be known when the societies of the state meet; also the names of the officers directing their activities this year should be shown.

MISSISSIPPI STATE MEDICAL ASSOCIATION: Sixty-ninth Annual Session and Thirty-third Annual Session of the House of Delegates, Greenville, May 5, 6 and 7.

MISSISSIPPI STATE HOSPITAL ASSOCIATION: Seventh Annual Session, Greenville, May 4.

ADAMS COUNTY MEDICAL SOCIETY: W. K. Stowers, Natchez, president; F. S. Dixon, Natchez, secretary. Meets third Tuesday each month, Natchez, 7:30 p. m.

AMITE COUNTY MEDICAL SOCIETY: D. H. Thornhill, Crosby, secretary.

CENTRAL MEDICAL SOCIETY: E. L. Walker, Magee, president; L. W. Long, Jackson, secretary. Meets third Tuesday each month, Robert E. Lee Hotel Roof, Jackson, 7:00 p. m.

CLAIBORNE COUNTY MEDICAL SOCIETY: E. P. Jones, Hermanville, president; G. W. Acker, Port Gibson, secretary.

CLARKSDALE AND SIX COUNTIES MEDICAL SOCIETY: D. O. Pierce, Jonestown, president; N.

C. Knight, Clarksdale, secretary. Meets fourth Wednesday of March and second Wednesday of November, Elks Club, Clarksdale, 2 p. m.

CLARKE-WAYNE COUNTIES MEDICAL SOCIETY: W. P. Gray, Waynesboro, president; Albert Hand, Shubuta, secretary.

COAHOMA COUNTY MEDICAL SOCIETY: J. A. Slack, Friars Point, president; N. C. Knight, Clarksdale, secretary. Meets second Wednesday each month, Clarksdale Hospital, 1:30 p. m.

DELTA MEDICAL SOCIETY: J. W. Lucas, Moorhead, president; F. M. Acree, Greenville, secretary. Meets second Wednesday of April and October. Rotates through five counties, 2 p. m.

DESOTO COUNTY MEDICAL SOCIETY: A. J. Weissinger, Hernando, president; L. L. Minor, Rt. 4, Memphis, secretary. Meets first Monday of January, April, July, October, Hernando, 10 a. m.

EAST MISSISSIPPI MEDICAL SOCIETY: C. H. Gully, DeKalb, president; T. L. Bennett, Meridian, secretary.

FRANKLIN COUNTY MEDICAL SOCIETY: L. Costley, Meadville, secretary.

HANCOCK COUNTY MEDICAL SOCIETY: A. P. Smith, Bay St. Louis, secretary.

HOMOCHITTO VALLEY MEDICAL SOCIETY: Lucien S. Gaudet, Natchez, president; W. K. Stowers, Natchez, secretary. Meets January, April, July and October, 2 p. m.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY: T. P. Sparks Jr., Vicksburg, president; Leon S. Lippincott, Vicksburg, secretary. Meets second Tuesday each month, Elks Club; Vicksburg, 7 p. m.

JACKSON COUNTY MEDICAL SOCIETY: W. J. Weatherford, Pascagoula, president; R. G. Lander, Pascagoula, secretary. Meets second Thursday of March, June, September and December, Jackson County Hospital, Pascagoula, 7:00 p. m.

JEFFERSON COUNTY MEDICAL SOCIETY: W. T. Harper, Fayette, secretary.

NEWTON COUNTY MEDICAL SOCIETY: W. T. Pennington, Decatur, president; Dudley Stennis, Newton, secretary.

NORTH MISSISSIPPI MEDICAL SOCIETY: R. G. Grant, Holly Springs, president; A. H. Little, Oxford, secretary. Next meeting April 15, Holly Springs.

NORTHEAST MISSISSIPPI 13 COUNTIES MEDICAL SOCIETY: Z. A. Dorsey, Troy, president; A. J. Stacy, Tupelo, secretary. Meets third Tuesday, March, June, September and December.

PIKE COUNTY MEDICAL SOCIETY: J. L. Bauer, McComb, president; Elise Rutledge, McComb, secretary. Meets first Thursday each month, McComb, 6:30 p. m.

PONTOTOC COUNTY MEDICAL SOCIETY: L. O. Carruth, Tupelo, R.F.D., president; O. F. Carr, Pontotoc, secretary. Meets first Tuesday each month, Pontotoc.

SOUTH MISSISSIPPI MEDICAL SOCIETY: J. Gould Gardner, Columbia, president; F. T. Bower, Hattiesburg, secretary.

STONE COUNTY MEDICAL SOCIETY: Earl W. Green, Wiggins, secretary. Meets with Harrison-Stone-Hancock Counties Medical Society.

TATE COUNTY MEDICAL SOCIETY: W. D. Smith, Senatobia, president; J. Sidney Eason, Coldwater, secretary. Meets second Wednesday each month, Senatobia.

TRI-COUNTY MEDICAL SOCIETY: H. R. Fairfax, Brooklyn, president; R. B. Zeller, Hazlehurst, secretary. Meets second Tuesday of March, Copiah-Lincoln Junior College, Wesson; June, Walthal Hotel, Tylertown; September, Riverside Hotel, Monticello; December, Whitworth College, Brookhaven, 12:30 p. m.

WILKINSON COUNTY MEDICAL SOCIETY: E.

M. Butler, Centreville, secretary.

WINONA DISTRICT MEDICAL SOCIETY: P. B. Brumby, Lexington, secretary.

MISSISSIPPI HOSPITALS—CALENDAR OF STAFF MEETINGS

ANDERSON INFIRMARY: Second Friday, each month 6:00 p. m.

RILONI HOSPITAL: First Friday, each month, 7:30 p. m.

CLARKSDALE HOSPITAL: Second Wednesday, each month, 1:30 p. m.

GEORGE C. HIXON MEMORIAL HOSPITAL: First Monday, each month.

GREENWOOD LEFLORE HOSPITAL: Second Monday, each month 8:00 p. m.

HOUSTON HOSPITAL: Last Thursday, each month 7:30 p. m.

JACKSON COUNTY INFIRMARY: Second Thursday, each month except July and August, 1:00 p. m.

JACKSON INFIRMARY: Last Tuesday, each month, 6 p. m.

MERIDIAN SANITARIUM: Second Thursday, each month, 6:30 p. m.

MISSISSIPPI BAPTIST HOSPITAL: Third Tuesday, each month, 6:30 p. m.

NATCHEZ SANATORIUM: Second Tuesday, each month, 7:30 p. m.

NORTHEAST MISSISSIPPI HOSPITAL: First Monday, each month, 7:30 p. m.

RUSH'S INFIRMARY: Second Thursday, each month, 7:00 p. m.

SOUTH MISSISSIPPI INFIRMARY: Last Thursday, each month, 5:00 p. m.

U. S. VETERANS HOSPITAL GULFPORT: Every Monday, Tuesday, Wednesday and Thursday, 10:45 a. m.

VICKSBURG HOSPITAL: Second Thursday, each month, 7:00 p. m.

VICKSBURG INFIRMARY: First Wednesday, each month, 7:00 p. m.

VICKSBURG SANITARIUM: Tenth, or week of tenth, each month, 6:30 p. m.

WINONA INFIRMARY: First Thursday, each month, 7:30 p. m.

CENTRAL MEDICAL SOCIETY

The quarterly meeting of the Central Medical Society was held on the Robert E. Lee Hotel Roof, Tuesday, March 3. Dr. E. L. Walker, president, presiding. After a dinner served at 6 p. m., the following program was presented:

1. Carcinoma of the Cervix Uteri (Lantern Slides)—Dr. Leon S. Lippincott, Vicksburg.

2. Chronic Primary Tuberculosis of the Spleen (Lantern Slides)—Dr. H. R. Shands, Jackson.

3. Anesthesia—Dr. W. H. Anderson, Booneville.

L. W. LONG, Secretary.

Jackson, March 3.

CLARKSDALE AND SIX COUNTIES MEDICAL SOCIETY

Clarksdale, Miss., March 25, 2 p. m.

Call to order.

Reading of minutes.

Old business.

New business: Election of delegates to State Medical Association.

Scientific Session—Papers by the following: J. L. Levy, Clarksdale; H. F. Garrison, Jackson; Tom Mitchell, Memphis, Tenn.; H. C. Ricks, Jackson; I. W. Barrett, Clarksdale; H. D. Gray, Memphis, Tenn.

Banquet and entertainment, 7 p. m.

N. C. Knight, Secretary.

Clarksdale.

COAHOMA COUNTY MEDICAL SOCIETY AND CLARKSDALE HOSPITAL MEDICAL STAFF

Clarksdale Hospital, March 11, 1:30 p. m.

Business Session.

Scientific Session.

"Traumatic Surgery"—4 reel motion picture.

N. C. KNIGHT, Secretary

Clarksdale.

EAST MISSISSIPPI MEDICAL SOCIETY

The East Mississippi Medical Society held the 1936 first quarterly meeting, Thursday, March 5, in the Lamar Hotel, Meridian. Dr. C. M. Gully, president, presided over the meeting. Approximately fifty members and guests were present. During the business session three new members were elected—Drs. C. B. Marshburn, Preston, Kemper county; Dr. R. M. Flynt, Newton, Newton county; Dr. Jesse McDonald, Collinsville, Lauderdale county.

The program rendered was as follows:

Traumatic Surgery of the Extremities—Moving Pictures, Courtesy Davis and Geck, Inc.—Presented by Dr. E. B. Key, Meridian.

Dinner (dutch)—Arranged by Dr. T. G. Cleveland, Meridian.

Pyelonephritis in Children—by Dr. F. G. Riley, Meridian.

The Scope of Neuro-Surgery—Dr. Chalmers H. Moore, Birmingham.

The Lauderdale County Auxiliary, recently organized, held a joint meeting with the East Mississippi Medical Society having as their guests, the wives of doctors from constituent counties. Mrs. H. Lowry, president, presided over the meeting.

T. L. BENNETT, Secretary.

Meridian.

RESOLUTIONS

Adopted by the East Mississippi Medical Society at its meeting Thursday, March 5, 1936.

On December 21st, 1935, death claimed Dr. William Krauss who was for so long a leader in the advancement of medical science in the South.

Dr. Krauss stood for what was honest and honorable, both as a doctor and as a man.

Be it resolved, That in the death of Dr. Krauss the East Mississippi Medical Society has lost its most illustrious and distinguished member.

Resolved further, It is the sense of this Society that his loss is irreplaceable and these resolutions shall be made of permanent record in the minutes of this Society.

Signed: M. L. FLYNT

K. O. STINGILY

T. D. BOURDEAUX

Committee

RESOLUTIONS ON THE PASSING OF DR. HENRY SLOCUM GULLY ADOPTED BY THE EAST MISSISSIPPI MEDICAL SOCIETY THURSDAY, MARCH 5, 1936

Whereas, The Divine Creator has seen fit to call into Eternity our beloved president of The Lauderdale County Medical Society, Dr. Henry Slocum Gully;

Whereas, This good man and good doctor has so long been an outstanding figure of genius and ability;

Whereas, since the days of young manhood he has been a beloved character and a man unique within himself, and true to the last degree to his friends;

Whereas, knowing him as we did, and knowing

his love for his profession, as we do, we can but say that manhood as a whole has lost a great, good, true, and a most worthy citizen and that the profession which he loved so well, giving to which all there was in him, and finally to which he sacrificed a most useful, a most gentle, and a most valuable life;

Whereas, the day was never too hot nor too cold, the night too dark and dreary, for Dr. Gully to respond to a call when suffering humanity needed him;

Whereas, he was known far and wide as a man of lovable traits, most genteel and gentle in his manner, unassuming at all times, but with a personality that carried conviction; he was a kind man, and carried sunshine, mirth, and laughter into the sick room where such qualities were so greatly needed;

Whereas, his tireless devotion to civic and social progress, and his pre-eminent leadership during his entire misfortune to lose our good friend, Dr. Gully, we are only to be consoled that we had him, and that we loved him, although we had to give him up; and this Society will keenly feel his loss as a physician, and the community as a whole deploring his loss as a civic leader and valuable citizen.

Therefore, Be it Resolved, that the East Mississippi Medical Society, of which he has so long been a member, hereby expresses its profound sorrow and sense of severe loss on the passing of Dr. Henry Slocum Gully; and that, after being spread upon the minutes of the Society, copies of these resolutions be sent to his bereaved widow and family, and also a copy be sent for publication in the official journal of the State Medical Association, *The Mississippi Doctor*.

C. P. MOSBY, M.D.
T. E. ROYALS, M.D.
K. T. KLEIN, M.D.

ISSAQUENA-SHARKEY-WARREN COUNTIES MEDICAL SOCIETY

A regular monthly meeting of the Issaquena-Sharkey-Warren Counties Medical Society was held at the Elks Club, Vicksburg, Tuesday, March 10. After supper served at 7 p. m., the society was called to order by the president, Dr. T. P. Sparks Jr., with twenty-two members and two guests present.

Papers and discussions: Obstetrics and Gynecology—Dr. I. C. Knox, Vicksburg, chairman.

1. The Present Status of Gynecology Compared with Gynecology Twenty Years Ago.—Dr. A. E. Gordin. Jackson, Guest Essayist from the Central Medical Society (Read by Dr. Gayden Ward, Jackson).

2. A Review of the Handbook of Obstetrics and Gynecology.—Dr. Nathan B. Lewis, Vicksburg.

Discussed by Drs. T. P. Sparks, Jr., R. A. Street, Jr., and Leon S. Lippincott. Dr. Lewis closed.

3. Novocain Anesthesia in Obstetrics—A Motion Picture, made at the Chicago Lying-In Hospital and the Chicago Medical Center by Dr. Joseph B. DeLee, Dr. B. E. Tucker and Dr. H. B. W. Benaron, by courtesy of the Medical Department of the Winthrop Chemical Company, Inc.—Dr. R. A. Street, Jr., and Dr. W. E. Johnson, Vicksburg.

It was announced that the East Mississippi Medical Society would furnish a guest essayist for the meeting of October 12, devoted to radiology, Dr. M. L. Flynt, Meridian, the essayist; and the Clarksdale and Six Counties Medical Society will furnish an essayist for the meeting of November, devoted to public health.

The president announced the Grand Assembly of Descendants of the Participants of the Campaign, Siege and Defense of Vicksburg to take place in Vicksburg, March 27 and 28, and distributed ap-

plications for membership in the society.

The next meeting of the Society will be held April 14. The subject will be internal medicine. The committee in charge consists of Drs. L. J. Clark, Vicksburg, chairman; W. K. Purks, Vicksburg; H. S. Goodman, Cary; D. P. Street, Vicksburg; J. S. Ewing, Vicksburg.

LEON S. LIPPINCOTT, Secretary
Vicksburg.

SOUTH MISSISSIPPI MEDICAL SOCIETY

The South Mississippi Medical Society has been "carrying on" to the best of its ability. Under the most able leadership of Dr. J. G. Gardner, the president, it has seemed to make good progress in the past year. Dr. Gardner is so well liked by all the members that the meetings are conducted most harmoniously and enthusiastically. We have, indeed, had programs of which we are very proud and I am sure productive of good for every member.

At our last meeting, papers of great worth were presented by Drs. Garrison, Pennock, Browne and Buffington. All were teeming with interest and instruction in their several branches.

We expect great things from the president-elect when he takes office. Dr. Culpepper is also universally and greatly liked by members of the society and will carry on with great achievements.

We are looking forward with much expectancy to the post-graduate course in obstetrics by Dr. Lapham to be given here very shortly. This should be very valuable to the members who are fortunate enough to be able to attend. It is to be hoped that this course is just a beginning and that others will follow in the near future.

I can think of no vital statistics concerning the members of our Society at the present time. With the exception of several cases of "flu," among them, which caused a temporary "lay up," most of them have had their noses pretty well to the "grind stone." The members of this society are good men, they work hard at their profession and are always looking toward its advancement.

F. T. BOWER, Secretary
Hattiesburg.

TATE COUNTY MEDICAL SOCIETY

At the January meeting of the Tate County Medical Society the following were elected as officers for 1936:

Dr. W. D. Smith, Senatobia, president; Dr. H. L. Murphy, Arkabutla, vice-president; Dr. J. Sidney Eason, Coldwater, secretary.

We are glad to report a 100 per cent membership again this year, there being only two retired physicians in the county who are not members.

J. SIDNEY EASON, Secretary
Coldwater.

ADAMS COUNTY

Drs. R. D. Sessions, W. K. Stowers, E. E. Benoist attended the Southeastern Surgical Congress which met in New Orleans in March.

Dr. J. W. Chisholm, who was confined to his home with influenza, is out again, attending his patients and mingling with his fellowmen.

The Homochitto Valley Society is anticipating with great pleasure a visit from Dr. Hill, our State President, at its April meeting. We welcome you in our midst, Doctor.

It is hoped at this writing, that our much loved Dr. Bryan is on the road to recovery.

With sorrow in our hearts, we chronicle the death of our beloved Dr. Philip Beekman, who passed away in Natchez Feb. 14 at his home, surrounded

by family and friends. Death came peacefully to him, who meant so much to us in our deliberations and meetings.

One by one earth's ties are broken
One by one, we see our loved ones go.
One by one, to journey to another land,
One by one, we hope to meet again.

The following is from the Natchez (Miss.) Democrat of Saturday, February 15, 1936:

Dr. Philip Beekman is dead.

Dr. Philip Beekman, greatly loved physician and citizen, closed his eyes in eternal sleep at seven fifteen o'clock yesterday evening at his residence on North Commerce Street.

While it was known for several days that "Dr. Phil," as he was affectionately known among all classes and creeds, was critically ill, hope was held until the last that he might recover.

The great Master, in taking the soul of Dr. Philip Beekman removed from this earth an eminent physician and surgeon who down through the years has administered to the sick and afflicted and through his tender ministrations won for himself a place in the hearts of everyone.

Natchez, this county and the nearby section, will be bowed in sorrow today to learn of the passing of this prominent and greatly loved physician and citizen.

For many years Dr. Beekman served this community. He has been family physician for both high and low born, ever anxious in every case to give every ounce of his medical learning and energy to mend injuries, cure the sick and prevent death.

There are literally thousands in Natchez who looked upon Dr. Beekman as their protector and to him for guidance. Many of the most prominent citizens of this community were brought into the world with Dr. Phil present. He attended them during their childhood, young manhood, and womanhood—in truth he contributed as much to their development as mother or father.

Dr. Beekman took great pride in the number of men and women he had brought into this world. He remembered them all and it was with pride, that he watched them grow from babyhood into youth and then into manhood and womanhood and take their place among the leaders of this community.

In many homes today there will be shed bitter tears of sorrow over the passing of a beloved friend and physician who practiced always the great principles of his profession.

Throughout his long and useful life, Dr. Beekman took a very great interest in the progress, development and upbuilding of this community. He was an extensive property owner and held an abiding and implicit faith in Natchez and this section.

In the recreational field, Dr. Phil was most interested in baseball. He was an ardent baseball fan from early youth and throughout his life was a faithful attendant at all baseball games.

Truthfully when the baseball season opens this year there will be many eyes turned to his favorite spot to see if he has arrived. He will be missed by both players and fans alike. For many years he has served as official physician for the baseball club.

Dr. Philip Beekman was born in Natchez, Miss., on January 2, 1835, being the son of the late Aaron Beekman and Mrs. Fanny Getzert Beekman.

He received his early education at the Natchez Institute and in Professor Campbell's School in Natchez. He then attended Rush Medical College at Chicago, Ill., and then went to Bellevue Medical College at Chicago, Ill., and then 1234561234m12 College in New York City where he graduated in March, 1888.

After receiving his degree, Dr. Beekman was house surgeon at St. Vincent's Hospital in New York City for two years. He then started practice

in Memphis, Tenn., in partnership with Dr. Max Herman. He was located in Memphis in 1890 and 1891.

Dr. Beekman returned to his native city in May, 1891, and was associated in practice with Dr. L. H. Lamkin for a number of years. He then engaged in practice alone and later was associated with his nephew Dr. Marcus Beekman for several years.

During more recent years Dr. Phil Beekman practiced alone and despite the fact that he had been ill previously he continued his practice and saw his patients until his last illness which started about ten days ago.

Dr. Beekman was married on October 21, 1891 to Miss Tillie Haas of Natchez. She is the daughter of the late Moses and Mina Haas.

He is survived by his wife, Mrs. Tillie Haas Beekman, two daughters, Miss Edith Beekman and Mrs. Daniel Scharff of New Orleans, La., and one granddaughter, Miss Phyllis Beekman Scharff, and two sisters, Mrs. Isaac Laub and Mrs. Maurice Job of Natchez, Miss.

Dr. Beekman was very active in organization work and was a member of the following organizations: American Medical Association, Mississippi State Medical Association, Homochitto Valley Medical Society, Adams County Medical Society, charter member of Phi Alpha Sigma Fraternity, Natchez Lodge No. 553, Benevolent and Protective Order of Elks; president of Natchez Sanatorium; Honorary member of Volunteer Firemen of Natchez; and member and former president of the congregation of B'Nai Israel.

Funeral services will be held from the family residence on North Commerce Street at three o'clock Sunday afternoon.

The following gentlemen will serve as pallbearers: Dr. R. D. Sessums, Dr. J. W. D. Dicks, Dr. L. S. Gaudet, Dr. J. S. Ullman, Dr. E. E. Benoist, Dr. W. K. Stowers, Dr. Francis Dixon, Dr. H. M. Smith, Dr. J. G. Logan, Dr. Wallace Smith, Dr. Homer Whittington.

LUCIEN S. GAUDET, County Editor
Natchez.

AMITE COUNTY

Dr. Harrison Butler, formerly of Centreville, has changed his location to Liberty and has placed his membership with the Amite County Medical Society.

Dr. and Mrs. D. H. Thornhill report a profitable as well as enjoyable trip to the meeting of the Mid-South Post Graduate Medical Assembly recently held in Memphis.

Amite and Wilkinson County Societies will hold another joint meeting in Centreville at the Field Memorial Hospital, Thursday, March 12 at 6:30 p. m.

D. H. THORNHILL, Secretary
Crosby.

CHICKASAW COUNTY

Dr. Sherman Edmondson, Vardaman, is opening offices there, where he plans to continue his practice.

Dr. W. T. Watson, Pittsboro, was a patient here for two days this week.

Dr. Hugh Curry, Jr., is practicing temporarily in Eupora in association with his father, Dr. Hugh Curry, Sr.

Among those who have been ill with influenza recently we may name: Dr. W. C. Walker, Dr. J. Rice Williams, Dr. E. K. Guinn, Dr. B. J. Shaw, Dr. and Mrs. J. R. Priest, and Miss Eva Collins, hospital secretary.

DOUGLAS D. BAUGH, County Editor
Houston.

COAHOMA COUNTY

Dr. E. LeRoy Wilkins attended the Child Welfare meeting of the American Legion in Atlanta,

Georgia, and Jackson the last part of February. Dr. Wilkins has been extremely active in this type of work for the American Legion for a long time and has advanced a well organized program of child welfare throughout the American Legion posts of Mississippi. Through his efforts in developing and advancing this work many, many children have received medical attention that never would have received it otherwise. Dr. Wilkins, therefore, is to be commended in the highest terms for his active interest in this work.

Dr. W. H. Brandon, Clarksdale, has visited Jackson, several times in the interest of securing passage of the hospital bill now before the Mississippi Legislature. Dr. Brandon was also a business visitor to Memphis during the month.

Dr. T. M. Dye, Clarksdale, has thrown his hat into the political ring, announcing his candidacy for mayor of Clarksdale. The election will take place sometime this spring. We all wish for him the best of luck.

Out of town visitors to the Coahoma County Health Department during January included Mr. Ed. Johnson, Floyd Ratliff, Ledbetter, Miss Ora E. Phillips, and Dr. J. A. Milne—all from the State Board of Health in Jackson and all visiting the department on business. Miss Lucile Lampton, Magnolia, returned to the health department Dec. 26 to resume her duties as public health nurse.

We regret very much to report that Dr. W. S. Slaughter, Jonestown, one of our former presidents, has been very ill for the last several days and has remained at home in bed. We are glad to report, however, that he is much better and it looks as if he will soon be up again. We all extend to him our deepest sympathy and will be glad to see him up again.

A large number of our physicians are planning to attend the Mid-South Post Graduate Medical Assembly in Memphis during February.

Most of us have stayed home and worked hard since Christmas and everything has been very quiet along the line of disease.

N. C. KNIGHT, County Editor

Clarksdale.

COAHOMA COUNTY

Drs. I. P. Carr, J. A. Slack, J. L. Levv, D. H. Griffin, N. Yeates, C. Z. Ballard, P. R. Wasson, T. G. Hughes and N. C. Knight all attended the Mid-South Post Graduate Medical Assembly in Memphis during February. This was a very profitable meeting to all of us who went and we wish that all the doctors in the county could have been there.

We are glad to report at this time that Dr. W. S. Slaughter, Jonestown, has just about recovered from a very severe attack of influenza. Dr. Slaughter is one of our past presidents and we are glad he is up again.

Dr. W. H. Brandon was a business visitor in Jackson and Memphis, Tenn., during the month.

Dr. I. W. Barrett has moved into his new clinic on the corner of 3rd and Leflore streets. This clinic is a beautiful two-story building, well equipped and modernistic throughout. Dr. Barrett is to be congratulated for furnishing this community with such a modern clinic to render efficient medical service. The people are fortunate to have Dr. Barrett here.

N. C. KNIGHT, County Editor

Clarksdale.

DESOTO COUNTY

Dr. A. V. Richmon, Lake Cormorant, is a patient in the Baptist Memorial Hospital, Memphis, it is gratifying to report that he is better.

Practically all the doctors of this county attended the Mid-South Medical Assembly; the meeting was

a success in every respect.

The LaGrippe has been an epidemic in these parts; a Hibernian shrewdly remarked that this ubiquitous malady keeps you sick sometime after you get well.

We are looking forward with pleasure to the meeting in Greenville; this city and the citizens thereof, especially the doctors are of a choice class.

L. L. MINOR, County Editor

Route 4, Memphis.

LEFLORE COUNTY

Dr. R. B. Yates visited Memphis, Tenn., Feb. 2.

Dr. and Mrs. I. C. Adams, Dr. and Mrs. I. B. Bright, Dr. and Mrs. L. B. Otken, Drs. S. L. Brister, Jr., W. E. Denman, and G. Y. Gillespie, Jr., attended the Mid-South Postgraduate Assembly in Memphis, Tenn., Feb. 12 to 15.

The infant daughter of Mr. and Mrs. Williams, and granddaughter of Dr. L. H. Hightower, Itta Bena, who was quite ill with broncho-pneumonia in the Greenwood Leflore Hospital, has completely recovered, and returned to Itta Bena.

Dr. and Mrs. L. A. Barnett announce the marriage of their daughter, Nan Louise, to Mr. Fisher Morgan Southworth, Greenwood, in Grenada, Feb. 15th.

Dr. J. W. Lucas, Moorhead, visited Greenwood, Feb. 19.

Dr. and Mrs. O. H. Swayze, Yazoo City, attended the wedding of Miss Genevieve McBee and Mr. Barbour, Yazoo City, in Greenwood, Feb. 24.

Dr. Russell A. Hennessey, Memphis, Tenn., attended to business in Greenwood, Feb. 25.

Dr. U. S. Wesson, Moorhead, visited Greenwood, Feb. 27.

Among the "out-of-town" doctors attending the lectures given by Dr. M. E. Lapham every Thursday night at the court house in Greenwood were the following: Drs. C. F. Freeland and E. R. Meek, Glendora; Drs. T. Y. Fleming and J. D. Sweeney, Minter City; Drs. L. H. Hightower, Itta Bena, A. F. Charlton, Berclair; Edgar Giles, Avalon, A. M. Gill, Sidon. Dr. Lapham's lectures are very interesting, instructive, and well delivered, and thoroughly enjoyed by every one present.

W. B. DICKINS, County Editor

Greenwood.

MONROE COUNTY

Our good friend, Dr. G. S. Bryan, Amory, has been very sick for several weeks. But he's a great fighter, and wins in all undertakings. Am glad to say he is back at his office, and making some calls. His clientele is delighted to have his service again. He is a great man, hard student, a deep thinker. He has many friends both in and out of the profession. He values them above all things. He says they are worth more than all money. His professional friends from far and near visited him during his dark hours of illness—Dr. James S. McLester and Dr. Seale Harris, Birmingham, Ala., Dr. Felix J. Underwood, Jackson, executive officer, Mississippi State Board of Health, Dr. and Mrs. E. C. Parker, Gulfport, past president, Mississippi State Medical Association, Drs. Rice Williams and V. B. Philpot, Houston, Dr. A. J. Stacy, Dr. J. R. Hill, Corinth, Dr. R. B. Caldwell, Baldwin, Dr. C. H. Love, Aberdeen, Dr. W. H. Anderson, Booneville, Dr. C. E. Boyd, Hatley. Many other doctors visited him whose names I don't recall at this time. They will all be proud to hear that he is up and going ahead with his work.

Dr. G. S. Bryan, Amory, and Dr. C. B. McCowan, Aberdeen, attended the Mid-South Postgraduate Medical Assembly at Memphis last week.

Dr. and Mrs. W. N. Reed, Amory, were in Memphis on business last week. Dr. Reed attended the meeting of the Mid-South Postgraduate Medical As-

sembly.

The doctors of this county have been very busy: lots of influenza, bad roads, and cold weather; more pneumonia than we usually have.

The Monroe County Medical Society did not meet on the first Monday night because of bad weather and snow, but met the following Monday night with a good attendance. Dr. C. E. Boyd read a paper on endocarditis.

It was talked that an offer of \$24.00 per year would be offered the doctors for care of each family on rehabilitation (mule and land farmers) cared for by the government. After much discussion, the entire membership voted a motion to accept no work for the Government at a less price than we work for our clientele.

Dr. G. T. Tubb, Aberdeen, was visiting Dr. G. S. Bryan last week.

B. C. Tubb, County Editor.
Smithville.

PONTOTOC COUNTY

Pontotoc County Medical Society met Thursday, March 3rd. We had a very interesting paper on "Diagnosis and Treatment of Cancer" by Dr. J. Rice Williams of Houston.

All of the doctors of the county have been very busy for the past three weeks with flu and pneumonia.

We are sorry to report the illness of Dr. J. W. Turner of Pontotoc.

We are glad to report that Dr. J. D. Neel of Echu, is gradually improving from his automobile accident some months ago.

R. P. DONALDSON, County Editor
Pontotoc.

TATE COUNTY

The news will reach you too late for March issue of the journal on account of rush and a few days of influenza myself. However, I see that our county editor has failed us for some months and will send in a short report that the world may know that Tate county is still on the map.

Dr. Lapham began his series of lectures on obstetrics Jan. 7 with good attendance. All lectures have been well attended in spite of the severe cold, bad weather and every lecture enjoyed and very instructive to all of us.

Dr. W. D. Smith, Senatobia, had the misfortune during the freeze to slip and fall, and received a fracture of one vertebra. Glad to report him improving and at work by help of brace.

We are sorry that we will not have Dr. W. D. Roseborough, formerly of Senatobia, with us this year. He has accepted a position with the sanatorium at Sanatorium.

Glad to report that Dr. J. W. Thompson, Independence, who has been at Sanatorium for some months past for rest and recuperation is very much improved and will soon be back in harness again.

Dr. M. M. Powell, Coldwater, attended the Mid-South Postgraduate meeting in Memphis last week, and reports a good program.

We are glad to have with us two of the younger physicians in the county to remain with us, Dr. T. W. Meriwether, Senatobia, and Dr. John C. Powell, Coldwater. Both are members of our society.

We are sorry to report Dr. J. W. Crawford, Coldwater, seriously sick at this time. We all hope he will soon be much improved.

Dr. J. L. Roseborough, Senatobia, who has been confined for some time past is improving and we hope will soon be able to attend to his usual work.

The WPA has begun drainage and other work in malaria control. This will be a great help to many

parts of the county.

Coldwater.

J. SIDNEY EASON

TIPPAH COUNTY

Most of Tippah doctors were in attendance at the meeting of the Mid-South last month, for part of the sessions at least. All report a successful meeting, full attendance, and some most instructive lectures.

We were honored in having one of our doctors chosen as president-elect, Dr. R. M. Adams, who has practiced here 33 years and is well known for his being on hand when meetings of medical associations are held.

The Memphis papers commenting on members of his family who are already practicing medicine or studying medicine, might well have added that his wife who has been of so much help is of medical heritage. Both her grandfathers, her father, and brother-in-law, her uncle and a cousin have been practitioners in Mississippi.

The friends of Dr. Hubert Clemmer and wife are rejoicing with them over arrival of a son, their first born, a few days ago. Dr. Clemmer and wife are both natives of Tippah but now live in Milan, Tenn.

Several doctors from counties in Northwest Mississippi met in New Albany today, 10th, to protest against Senate bill 442 and to urge their senators to vote against same.

Some of our men are expecting to attend the next meeting of the Thirteen County Society, as such meetings are always well worth their time, and also the social features are attractive.

We are glad to know we will have help of public nurse again after next week. The work has been of inestimable value and will continue so.

Mrs. Tate is enjoying a visit from her mother, Mrs. Perry, who lives in Maine. Mrs. Perry has been here before and her many friends are also enjoying having her again.

Miss Victoria Adams is in Memphis in the office of Dr. C. D. Blassingame.

Hanning Mayfield, son of Dr. J. L. Mayfield, Blue Water, is to enter the University of Tennessee as medical student.

We were extremely sorry to hear of the death of Dr. H. G. Gully, Meridian. Truly another true physician ceased to labor when he was called over the river.

C. M. MURRY, County Editor
Ripley.

WARREN COUNTY

"How goes it now, sir? This NEWS which is called true is so like an OLD tale, that the verity of it is strong suspicion."

Regardless of the suspicion that may be cast on the verity of truth of the facts that your editor writes of the Vicksburg and Warren County doctors, they travel on, for this month Dr. Laurance Clark attended the Annual Clinical Session of the American College of Physicians, convening in Detroit. On this occasion the doctor did not act in the capacity of a "medico-gigolo," in fact he went without a chaperon, or as a chaperon.

Placid, pleasing, plethoric, Dr. Preston S. Herring, without costume or make-up, attended the New Orleans Mardi Gras, and we are informed was a "close-up" runner for being crowned Rex of the carnival.

The Southeastern Surgical Congress met at New Orleans this month. Dr. A. Street, of this city, read before this medical convention a prepared paper discussing peritonitis.

The representation from our county at the Mid-

South Post Graduate meeting in Memphis last month was meager in number but most complimentary of personnel. Drs. W. K. Purks and A. Street by their attendance there, represented Vicksburg most creditably.

Dr. W. H. Parsons and wife spent a few days last month on a most pleasant short vacation on the Gulf Coast.

"She is mine own, and I
Am rich in having such a jewel.
As twenty seas, if all their sands were pearl
The waters nectar, and the rocks pure gold."
So speaks Dr. J. A. K. Birchett, Jr.

Ye county editor appreciated an invitation to attend the quarterly meeting of the Central Medical Society, convening in Jackson, March 3. He regrets that he was unable to attend. At this meeting our esteemed state editor, Dr. Leon S. Lippincott, Vicksburg, was on for a paper and our admired editor of *The Mississippi Doctor*, Dr. W. H. Anderson, Booneville, also presented a paper, and sandwiched between these was our good and cherished friend, Dr. H. R. Shands. We know they had a good program, a good feed and a good time.

Early in the month the Federal Government transferred Dr. Paden from Vicksburg to Charleston, South Carolina. Dr. Paden was medical officer for two of the CCC Camps located in our National Military Park. He had endeared himself to our doctors through this pleasant association over a period of some two or more years. Pope has said, "Worth makes the man, want of it makes the fellow." Dr. Paden possessed ability and worth, he was a man and we wish for him success in his new field of opportunities.

Dr. H. H. Johnston attended this month the "Trilogical" Oto-Pharyngo and Laryngological Society meeting at Jackson.

"Faint and distant as the light of a sun that has wheels" and the swaying creak of a "covered wagon long set" came the indistinct noise of "rolling wagon" to the inhabitants of the little town of Tuscaloosa, Ala., when a pioneer home seeker and his family approached this little city in that long ago March of 1854, when journeying from Georgia to Mississippi, their future home. While this family tarried there a son was born to them, who afterward has been known to many Mississippians and Mississippi doctors as Dr. H. H. Haralson. So on March 10, 1936, Dr. Haralson is celebrating his 82nd birthday in his home where were gathered his children, grand-children and great grand-children. Many worthy distinctions have come to "Dad" in his professional career, but perhaps none have brought greater or more abiding joy than comes on these birthday occasions, when surrounded by those dearest to him. In his "House of dreams untold he looks out over the whispering treetops and heroically faces the setting sun." We make bold and confidently speak for all Mississippi doctors in expressing to Dr. Haralson a wish for continued health and happiness and many other birthdays.

H. T. IMS, County Editor

Vicksburg.

WASHINGTON COUNTY

The following announcement will be of much interest throughout the Delta:

Dr. and Mrs. G. W. Eubanks, Greenville, announce the engagement and approaching marriage of their daughter, Mary, to Mr. L. T. Garrett, the wedding to take place the early part of April.

Dr. and Mrs. Eubanks are now pleasantly located in their new home on Arnold Avenue, Ext.

Dr. and Mrs. S. L. Lane, Hollandale, had as their guests, Mr. and Mrs. Berry Reese and small son, Berry Jr., of Yazoo City.

Dr. and Mrs. W. P. Shackelford, Hollandale, visited

relatives recently in Yazoo City.

Dr. and Mrs. R. A. Haggard and Mr. Pete Nunnery have returned from Hot Springs, Ark., where they accompanied Mr. Lee Nunnery who will remain for several weeks.

Mr. J. M. Walker, Memphis, District Governor of Rotary, was the guest of Dr. and Mrs. D. C. Montgomery, Montbury, Greenville.

Mr. and Mrs. Devere Dierkes and little son, Devere, Jr., and their niece, Miss Jean Joers of New York City, were the guests of Dr. and Mrs. D. C. Montgomery, Greenville, enroute to their home in Hot Springs, Ark., after vacationing in Florida.

Dr. H. A. Gamble, Greenville, has made several trips to Jackson recently.

The following doctors from Greenville attended the Mid-South Postgraduate Assembly in Memphis: Drs. F. M. Acree, O. H. Beck, J. A. Beals, R. N. Crockett, and J. G. Archer.

The many friends of Dr. and Mrs. J. B. Hirsch, Greenville, regret to learn of the recent illness of Mrs. Hirsch and hope for her an early recovery.

The many friends of Dr. C. C. Parnell, Pace, regret to learn of a recent operation he underwent at the King's Daughters' Hospital in Greenville and are glad to know that he is recuperating rapidly.

Friends of Dr. and Mrs. J. A. Beals, Greenville, regret to learn of the recent illness of Mrs. Beals.

JOHN G. ARCHER, County Editor

Greenville.

WILKINSON COUNTY

The friends and associates of Dr. S. E. Field sympathize with him in the loss of his wife on Feb. 16. Mrs. Field, who was Miss Elizabeth Blount of Water Valley, before her marriage to Dr. Field, had been ill for several months before her death occurred at the Field Memorial Hospital in Centreville. Mrs. Field has been very active in the social life of her community and her loss is felt very deeply by a large circle of friends.

Dr. Harrison Butler, formerly of Centreville, has recently moved to Liberty, where he is now doing general practice.

EDWIN M. BUTLER, County Editor

Centreville.

WINSTON COUNTY

Everett Lovorn, Jr., who is attending Decatur Junior College, son of Dr. E. Lovorn, Louisville, spent the week-end with his parents.

Dr. T. C. Shuttle and his son have both been ill with flu, but are better at this time.

Drs. W. W. Parks, E. L. Richardson and W. B. Hickman have been on the sick list this week.

The doctors of this section have had more cases of flu than they could visit, but it seems to be waning during this pretty weather.

Dr. John B. Bayfield of Alabama has taken over the practice of the CCC Camp here, which has been held by Dr. W. B. Hickman until they could procure an army doctor.

Dr. W. B. Hickman and wife have moved into their handsome brick home.

M. L. MONTGOMERY, County Editor

Louisville.

CENTRAL MEDICAL SOCIETY QUARTERLY MEETING

The Central Medical Society met for one of the largest and best meetings of the year on March 3rd at the Robert E. Lee Hotel Roof. A delicious steak dinner was enjoyed by members and guest just before the program was rendered.

The Society was glad to welcome visiting doctors who were to take part on program. Dr. Lippincott from Vicksburg, Miss., was the first speaker

and he rendered a most interesting report on "Carcinoma of the Cervic Uteri" and made it very impressive with slides.

Dr. Shands then gave an interesting paper on "Chronic Primary Tuberculosis of the Spleen." He also showed slides and X-ray pictures of three cases.

The last speaker was Dr. Anderson who brought an unusually interesting paper on "Anaesthesia."

Each of these papers was discussed by various doctors who complimented the speakers highly on such enjoyable papers.

In the business session it was voted that the Central Medical Society go on record as opposing the abolition of the Charity Hospital at Jackson and urge our representative for the retention of this hospital.

It was also voted to invite the South-Eastern Medical Congress to come to Jackson for one of its meetings.

MISSISSIPPI STATE BOARD OF HEALTH

Two important national health meetings took Dr. Felix J. Underwood and Dr. J. A. Milne to New York and Washington the first week in January. In New York, Dr. Underwood attended a meeting of the Public Health Advisory Committee of the Commonwealth Fund. Dr. Underwood is a member of the Committee. Dr. Milne conferred with officials of the Fund on various phases of the Mississippi public health program in which the Fund is interested and is supporting wholly or partially.

On January 6 and 7, both Dr. Underwood and Dr. Milne attended a meeting in Washington of the Committee on Records and Reports authorized by the recent Conference of State and Provincial Health Authorities. Dr. Underwood is chairman of the group and Dr. Milne is a consultant. The purpose of the Committee is to formulate uniform public health record and report forms for all states and territories of the United States.

Hospital Staff Transactions

HOUSTON HOSPITAL

At the February meeting of the Houston Hospital Staff, Dr. Maxwell E. Lapham was the featured speaker, choosing as his subject "Our Present Knowledge of the Endocrines in Obstetrics and Gynecology." In his address Dr. Lapham gave a very graphic presentation of the established interrelationship of the glands of internal secretion that have to do with the menstrual cycle and reproduction. A pleasing musical program was rendered by Miss Bessie Bloek, violinist, accompanied by Mrs. Charlie McCrairie, after which supper was served by the nursing staff.

DOUGLAS D. BAUGH, Secretary.

Houston.

KING'S DAUGHTERS STAFF INDORSES PERCY PARK PLAN

Indorsement of the proposal to acquire facilities to utilize the water at Leroy Park for treatment of paralysis cases, similar to that of Warm Springs, Ga., was given last evening by the staff of the King's Daughters Hospital, Greenville, at a meeting at the hospital.

The proposal to acquire the proper facilities is expected to be presented to the next meeting of the Delta Medical Society and to the State Medical Association. The Mississippi Association meeting will be held in Greenville.

Recent tests reveal that the thermal quality of the water from the Percy Park well is superior to that of the nationally famous Warm Springs, in that the temperature is 96.4 as compared with 88.7 degrees for Warm Springs. The chemical content compares favorably.

The plan is to build several pools for utilizing the warm water at the Leroy Percy State Park and Mississippi Deltans are behind the movement.

J. G. ARCHER

Greenville.

VICKSBURG SANITARIUM

The regular monthly meeting of the staff of the Vicksburg Sanitarium was held Monday, March 9, and after a supper served at 6:30 p. m., was called to order by the president, Dr. J. A. K. Birchett, Jr., with 11 members of the staff and two guests present.

Reports from the records department and analysis of the work of the hospital were presented and discussed.

Dr. F. Michael Smith, Director, Warren County Health Department, presented a report of vital statistics for the month of February.

Special case reports were presented as follows:

1. Folliculoma of Ovary and Intraligamentous Cyst.—Dr. G. M. Street.

2. Carcinoma of Thyroid Associated with Marked Thyrotoxicosis.—Dr. J. A. K. Birchett, Jr.

3. Ruptured Appendix with Localized Abscess.—Dr. R. A. Street, Jr.

Special Reports:

The recent meeting of the Southern Section of the American Laryngological, Rhinological and Otolaryngological Society.—Dr. Hugh H. Johnston.

The recent meeting of the American College of Physicians at Detroit.—Dr. L. J. Clark.

Three minute reports of the literature of the month:

Dr. L. S. Lippincott—Extension of Cancer of the Wrist.

Dr. J. A. K. Birchett, Jr.—Pharyngeal Diverticula.

The next meeting of the staff will be held, Friday, April 10.

LEON S. LIPPINCOTT, Secretary.

ABSTRACT: CARCINOMA OF THYROID ASSOCIATED WITH MARKED THYROTOXICOSIS

J. A. K. Birchett, Jr., M.D.

PATIENT: Colored, female, age 55.

CHIEF COMPLAINT: Lump in neck with sensation of choking.

HISTORY OF PRESENT COMPLAINT. Noticed two years ago that neck was getting large and there was an uncomfortable sensation as if her neck was too tight and she was choking. Unable to lie down on a pillow to sleep as it bent her neck so her trachea was cut off. For last six months has been extremely nervous, heart has been rapid, and becomes upset and nervous at least excitement and noise. Has lost considerable weight. Suffers with severe headaches and cold sweats but feels hot all of the time. Cannot stand to be in closed room or to have any bed clothes over her.

PAST HISTORY. Two children. No operations. General health good. Never felt bad until onset of present illness.

PHYSICAL EXAMINATION: Fairly well developed; eyes prominent; nervous; jerky motions. Bilateral enlargement of thyroid, larger on left than on right. Mass extends from substernal region into posterior part of neck above the sternomastoid muscle which the mass has pushed upward and backward. Slight pressure on gland cuts off easy passage of air into trachea. Swallowing is difficult.

Pulse 120; loud murmurs both at base and apex of heart. Marked arteriosclerosis of radial arteries. Blood pressure 300 over 160. Lungs not remarkable; abdomen not remarkable; pelvic structures atrophic, no pathology found. All reflexes hyper-

sensitive; marked tremor of hands, skin moist.

Blood Picture, essentially negative.

Basal metabolic rate, S. pl. 22, plus 55 per cent.

PROCEDURE. A diagnosis was made of toxic thyroid disease, myocarditis, acute and chronic, and arteriosclerosis, general.

It was our plan to reduce the metabolic rate to within operative range and to remove the thyroid not only because of its toxic effect but also because of the marked mechanical disturbance in breathing and swallowing. All of the methods of treatment at our command were required to bring this patient to a fair operative risk. Basal metabolic rate ranged from plus 95 to plus 45, the rate fluctuating markedly in a 24 hours period. Some of the basal metabolic findings made surgery seem remote. Large doses of Lugol's solution were given over a long period without visible improvement, the pulse rate being from 110 to 170 at all times. Roentgen ray therapy was resorted to, 66 min. R 200, 125 KV, 5 milliamperes, FSD 40, al. filter. After above treatment without any improvement in the general condition, it was decided that a ligation of the right superior thyroid artery (right lobe was the larger) should be done. This was easily accomplished under local anesthesia and, to my surprise, there was no reaction. Therefore one week later, under local infiltration and block a complete extirpation of the thyroid was done. The right lobe was sub-sternal and produced a marked angulation of the trachea. No thyroid tissue was left as it was our idea to relieve the myocardium of all thyroid stimulation and its overaction with its definite ill effect on the heart.

Patient was given an abundance of intravenous glucose solution following surgery and placed in an oxygen tent for 72 hours. The attending post-operative thyroid crisis did not get beyond control although it was marked with pulse rate 170 at the end of 36 hours and fever of 103 degrees F.

Patient was discharged on the 156th hospital day and 20th post operative day feeling well; pulse 90; blood pressure 140 over 80; slight hoarseness but breathing and swallowing with more comfort than for five years; able to lie down and sleep all night.

There is now some evidence of tetany. This is due to removal of parathyroids with thyroid and their injury. This is controlled by calcium given by mouth and intravenously and by small doses of parathyroid.

ABSTRACT: RUPTURED APPENDIX WITH LOCALIZED ABSCESS

R. A. Street, Jr., M.D.

PATIENT: Colored, male, age 14, admitted to Sanitarium Jan. 15, 1936.

HISTORY OF PRESENT COMPLAINT: Nine days ago sudden cramp in epigastric region, then lower abdominal pain, nausea and vomiting. The next day the pain had definitely localized in right lower quadrant. Continued to vomit at intervals, but retained some nourishment and did not seem to be acutely ill. The next day a large dose of castor oil did not relieve the pain and general condition continued about the same. Several days later the castor oil was repeated. Has not vomited in last 48 hours but pain in right lower quadrant has persisted. Fever has been high. There are no remarkable urinary symptoms. He had a cold three days before the onset of the first illness but this has all cleared up.

PAST HISTORY: Not remarkable.

FAMILY HISTORY: Not remarkable.

PHYSICAL EXAMINATION: Well developed and well nourished, apparently acutely ill and toxic. Temperature 99.8 degrees F.; blood pressure 110

over 70; pulse 120; respiration 18. General examination not remarkable except for toxic appearance and dry coated tongue. Abdomen acutely tender at right lower quadrant and it was easy to outline a definite mass lateral to and above the bladder. Definite muscular rigidity over this area. Flexion of right thigh on standing.

Diagnosis of appendiceal abscess was made. Patient put to bed with heat tent over abdomen and given 1,000 cc. of glucose solution intravenously immediately. Two days later, after general condition had improved and dehydration had been overcome it was deemed advisable to open the abdomen and drain the abscess. No attempt was made to find or remove the appendix. Numerous penrose drains were placed in the abscessed cavity and wound was closed to exist of drain.

Glucose solution was given daily. There was profuse discharge from the wound up until January 24, when it began to diminish. Except for a slight cough and evidence of a mild upper respiratory infection, convalescence was uneventful after January 27 when there was noticed a slight fecal odor to the discharge. All of the drainage tubes were removed. Fecal drainage continued until the time of discharge February 4, but was very much less at that time.

Again admitted to the hospital February 12, stating that he had had several spells of pain in the affected area followed by a slight rise in temperature and general malaise, but no persistence of these symptoms. Observed until February 16 and doing well. Drainage was negligible and the fecal odor was less noticeable.

HONOR ROLL

The following have contributed to the Mississippi News Section this month:

COUNTY EDITORS. Lucien S. Gaudet, D. H. Thornhill, Douglas D. Baugh, N. C. Knight, L. L. Minor, W. B. Dickins, B. C. Tubb, J. Sidney Eason, C. M. Murry, H. T. Ims, John G. Archer, Edwin M. Butler, M. L. Montgomery.—13.

SOCIETIES. Central, L. W. Long; Clarksdale and Six Counties, N. C. Knight; Coahoma County, N. C. Knight; East Mississippi, T. L. Bennett; Issaquena-Sharkey-Warren; South Mississippi, F. T. Bower; Tate County, J. Sidney Eason.—7.

HOSPITALS: Clarksdale Hospital, N. C. Knight; King's Daughters' Hospital, Greenville, J. G. Archer; Vicksburg Sanitarium.—3.

TOTAL—23.

THANK YOU.

SAINT LOUIS CLINICS

Annual Post-Graduate Course and Clinical Conference

To be held in St. Louis, Mo., from April 27 to May 2, 1936

The conference will consist of lectures, demonstrations and clinics on medical and surgical subjects. There will be no effort to arrange the material into courses but the subject matter has been selected with special reference to the requirements of the general practitioner.

Medical officers of the Seventh Corps Area will participate in the Conference.



Reading left to right: Top Row: Dr. R. C. Eley, Moss Point; Dr. B. L. Crawford, Tylertown; Dr. E. L. Walker, Magee. Middle Row: Dr. T. R. Beech, Ehsville; Dr. W. J. Stribling, Philadelphia; Dr. W. C. Simmons, Bay Springs. Bottom Row: Dr. S. L. Pharr, Booneville; Dr. A. E. Bostick, Iuka; Dr. I. I. Pogue, Scott; Dr. S. W. Pearson, Louisville.

Eleven Mississippi Doctors Attended Over Fourteen Hundred Births Last Year

In reality they made 1431 deliveries—1402 in Mississippi, and 29 in other states.

The honors go to Doctor R. E. Eley of Moss Point, Miss., for the greatest number of births attended in Mississippi. His grand total was 177. Only two of Doctor Eley's birth certificates were delayed in filing which was a fine record. This delay may not have been the doctor's fault after all.

The same eleven physicians officiated in over 1200 births in Mississippi during the previous year.

While our rule applies to births occurring in Mississippi it is but fair to Doctor A. E. Bostick, Iuka, Miss., who stands second on the list, to state that he attended 194 births, the largest number of all, but twenty-nine of his births were attended in Alabama and Tennessee. Doctor Bostick led the field in 1934.

If all the Mississippi doctors who are not specialists in other lines had been as busy with the population as these eleven physicians were last year, the total births would have been around 153,000 instead of the approximate number of 46,000 that really occurred.

The following shows the list of physicians and the number of births each attended during the past year as well as the number each attended in 1934:

Name or doctor, Postoffice	B'ths	
	1935	1934
Dr. R. C. Eley, Moss Point	177	143
Dr. A. E. Bostick, Iuka	165	168
Dr. W. C. Simmons, Bay Springs	146	121
Dr. B. L. Crawford, Tylertown	141	103
Dr. Thos. R. Beech, Ellisville	127	128
Dr. W. J. Stribling, Philadelphia	121	86
Dr. E. N. Blount, Bassfield	110	82
Dr. E. L. Walker, Magee	105	131
Dr. S. W. Pearson, Louisville	105	84
Dr. S. L. Pharr, Booneville	104	116
Dr. I. I. Pogue, Scott	101	54

Total 1402 1216

In this connection the Director of the Vital Statistics Department wishes to remind the public that August 1st of this year is the dead-

line for accepting delayed records of births. So many inaccuracies and misstatements have been discovered on delayed birth certificates that have been filed that the Department has become concerned over the prospects of having its standards lowered, and prefers that births be registered as they occur, when accurate information is easily obtained and there is no ulterior motive for any misleading statements.

R. N. WHITFIELD, M.D.
Director Vital Statistics.

Medical Association Insurance A Blessing To the Profession

Since 1928 the doctors of Mississippi have collected in death claims and disability claims through their Medical Association insurance more than three times as much as they have paid in premiums for this particular insurance.

The profession has had a very moderate premium rate and the claims have been promptly and adequately paid in every instance.

Since April, 1935, over \$400,000.00 new insurance has been purchased through this channel.

Probably one of the best things connected with the whole insurance activity is the relation that has grown up between J. L. Denson and the medical profession. Lee, as most of us know him, is one of the best informed insurance men in the entire state and he has been at the beck and call of members of the profession for the past several years. He drives thousands of miles every year to discuss insurance with members of the fraternity, and he takes a peculiar delight in so doing. One member of our profession says that he has heard Lee talk insurance to hundreds of members of our fraternity and not one time has he ever misinformed one of them regarding the subject. He always stands ready to advise and serve members of the body and all you have to do is drop him a card and he will go anywhere in the state to give your information and help with your insurance problem.

Lee is a son of one, who during his lifetime was one of the most loyal in the ranks of our Association, Dr. E. A. Denson, who loved organized medicine and gave it his very best.

One good plan for learning new words is to write on your desk calendar each day the meaning of one new word. Each morning look back over the words for the past several days and make efforts to use one or more during the day.

ATTENTION!

If anyone has either or all of the following copies of The Mississippi Doctor, will you please send them to us for our files?

Vol. 1, Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.

Vol. 2, Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12.

Vol. 3, No. 4.

Vol. 4, Nos. 8, 9, 10.

Vol. 6, No. 9

Vol. 8, Nos. 1 and 6.

Vol. 9, No. 10.

Vol. 11, No. 9.

THE MISSISSIPPI DOCTOR

Booneville, Miss.

Levy's

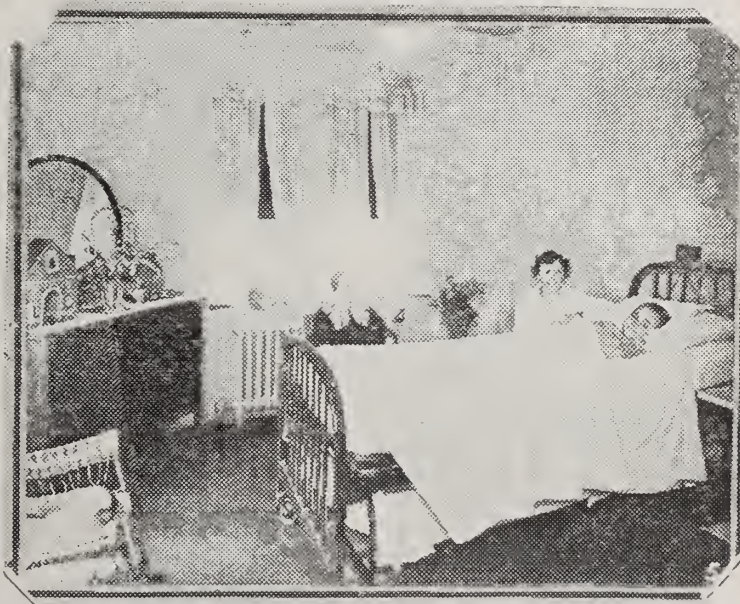
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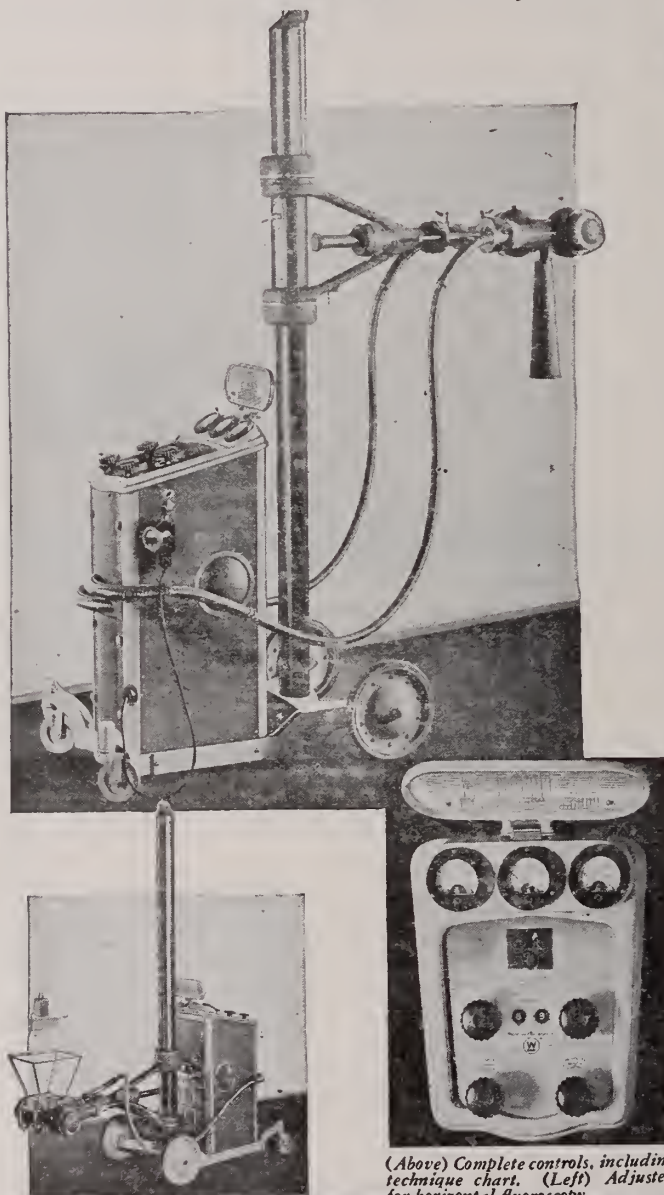
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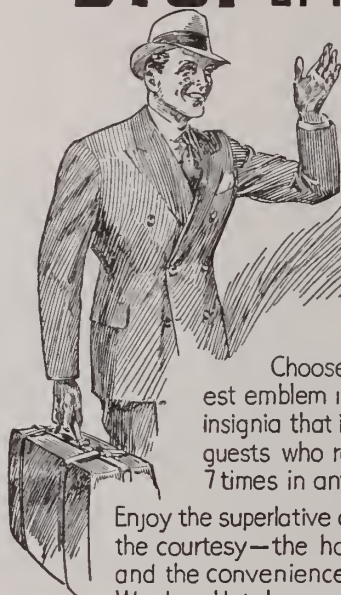


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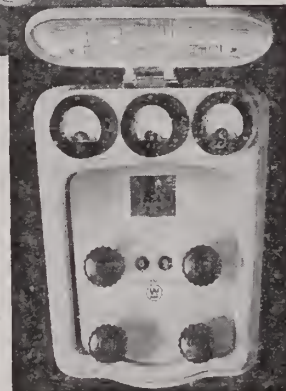
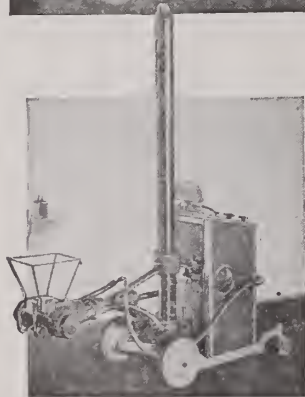
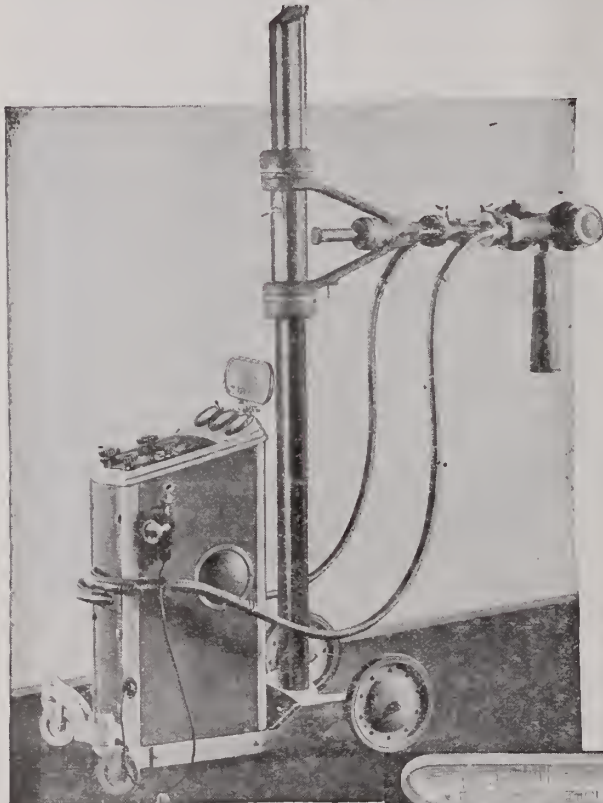


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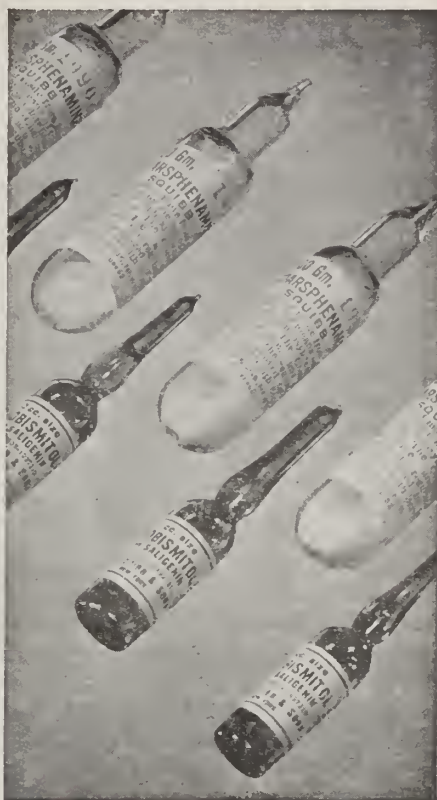
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*Martenstein, H.: Syphilis Treatment: Enquiry in Five Countries, *League of Nations Quart. Bull. Health Organ*, 4: 129, 1935.

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The Doctor and Childbirth*

J. R. McCORD, M.D.

Professor Obstetrics and Gynecology,
Emory University,
Atlanta, Ga.

Gentlemen: I hate for your program to be opened by the old boat-rocker. I disguised the title of my address as I was afraid if I put down what I was really going to talk about you would not come. I had an idea that Dr. Cooper knew what I was going to talk about.

I want to talk to you about maternal mortality. I think I have had an opportunity to study maternal mortality along rather larger lines than anybody else I know. I think certainly, when a man can stand up and talk to you about 7000 cases that he has labored with over a period of several years, in which death resulted and each one of those deaths have been faithfully studied, I think he has something to talk about.

In the first place I want you to understand I think maternal mortality is a fifty-fifty proposition. I think it is a 50 per cent proposition on the side of the patient and a 50 per cent proposition on the side of the doctors. What I am going to talk to you about this morning is largely from the standpoint of the doctor.

If my talk sounds critical I want you to understand that I do not mean it that way at all, and if it is critical I want you to know that I mean it as constructive criticism rather than destructive criticism. I am going to run slides now and explain as I go along. The following are some of the items of interest from the report of the Children's Bureau of Maternal Mortality in fifteen states.

7,280 maternal deaths were carefully studied. 509 women were not married. Maternal mortality was much higher among the unmarried women. That includes everything. Whenever you get an unmarried woman, you can pretty generally figure up that your maternal mortality is going to be high. 43 per cent of the 509 unmarried women died before the seventh month of pregnancy. These died before the child had a chance to live, even if born alive. 51 per cent of the married women died of sepsis. 63 per cent of the septic unmarried women died before the seventh month of pregnancy. This is interesting.

Mortality was 36 per cent higher in urban districts. According to the Bureau of Statistics, this includes 10,000 or over. It was apparent that two factors were concerned: the larger proportion of abortions in urban communities and deaths in urban hospitals of wo-

men delivered in rural areas. The exact value of the two factors can not be determined by this study. There were more deaths of non-residents, and this is surprising, in the hospitals of smaller than large cities. This is an average of 42 per cent in the hospitals of smaller communities and 18 per cent in the larger communities who were not residents. 5,636 women that died might have been expected to have had pre-natal care. 54 per cent did not have even a pre-natal examination, in large part because physicians were not consulted. No pre-natal care increase with the number of pregnancies. If you will remember Dr. Bethel Solomon of Ireland read a paper on the dangers of lack of pre-natal care. The more babies she had had the more afraid I get to be. The more babies a woman has had the less apt she is to get pre-natal care when she needs it more.

Special studies of small numbers indicate lower mortality rates among women receiving pre-natal care. 78 per cent of the women dying in the last trimester of pregnancy had poor or no pre-natal care. I may say, however, that pre-natal care is not a panacea for poor obstetrics.

Physicians admitted that their delivery case technique was unsatisfactory in more than 50 of the cases. The frequency of vaginal examinations often without gloves is clear, and the more relatively small number of rectal examinations must be noted.

This entire report is a record of failure. All the women died. One can not say that many of the operative procedures caused the deaths, but analysis of these procedures leads to many criticisms of management. Some operative procedure was done on more than 50 per cent of the women before they died.

The physicians who delivered these cases can not be blamed, for the results obtained in all cases, for in 43 per cent of the operative deliveries they had not seen the patient before labor or the acute emergency. Of single operations forceps was most frequent and cesarean section next. Version was preceded by artificial dilatation of the cervix in 272 cases. Forceps operations were done on 59 primiparous women with fewer than six hours of labor, and on 93 with between six and twelve hours of labor.

Podalic version and extraction was probably not indicated in the majority of cases, but was done 49 times on primiparous women in labor with fewer than six hours, and 31 times on women in labor between six and twelve hours. Forceps operations were done on 93 multiparous women in labor fewer than six hours and on 66 in labor from six to 12 hours.

Internal podalic versions and extractions were done on 196 multiparous women with fewer than six hours of labor.

*Delivered before the 52nd annual convention of the Mid-South Post Graduate Medical Assembly, Memphis, Tenn., Feb. 11-14, 1936. Taken down by stenographer.

There was a distinct increase with age among the multiparous women for versions, forceps and cesarean sections. In nearly 40 per cent of the operative deliveries physicians admitted an unsatisfactory technique as regards sepsis. This is to be expected, but the more modest the environment the greater should be the conservatism. I do not say that every man who delivers an obstetric case can by any means have ideal surroundings and environment, but I do believe that if he has an unsatisfactory or dangerous environment he should take less chances than if he had a good environment. It is therefore not to be wondered at that 26 per cent of the deaths following forceps and 19 per cent following version were due to sepsis. Had those women whose deaths were assigned to placenta previa and eclampsia lived longer many of them would probably have died of sepsis.

The fatal mortality following all forceps operation was 42 per cent, and following versions and extractions 63 per cent. I am absolutely convinced that one of the reasons for the high mortality rate in our country is because of the exaggerated problem that is put on fetal life. I would much rather send the mother back to the farm in the Ford automobile, and the baby in the box, than to send the baby back in the Ford and the mother in the box.

Here is an extreme case. A primiparous in labor six hours. She had had two doses of pituitary extract. Forceps operation attempted and delivery completed by version. No indication could be found. It was noticeable the number of cases in which a forceps was attempted and the delivery completed by version. This suggests unrecognized occiput posterior positions and premature delivery before cervical dilatation and the incidence of cesarean sections was 11 per cent at or after seven months of gestation. 537 women had a cesarean section. 45 per cent had had more than one pregnancy. 56 women had had six or more pregnancies. Eclampsia was the most frequent indication for cesarean section.

With the duration of labor the percentage of Cesarean deaths from sepsis rose rapidly from 29 per cent for those in labor under 12 hours and 50 per cent for those in labor 36 hours or more.

Careful study shows that probably 47 per cent of all the cesarean deaths were septic. Many surgeons probably should analyze the selection of their cases and study their operative technique and the surgical technique of their institutions, because of the many deaths which resulted from sepsis in which it seems the condition should not have occurred.

18 per cent of all the deaths were colored. The maternal mortality rate in colored wo-

men was nearly 50 per cent more than in white.

Puerperal albuminuria and convulsions caused more than twice as many deaths per 10,000 live births among colored women as among white women. That is of course entirely due to the lack of care.

The duration of pregnancy is a most important consideration in the evaluation of any statistics on maternal mortality. One-third of the 7,380 women died before they had reached the last semester of pregnancy. Sepsis caused 59 per cent of these deaths. Puerperal albuminuria and convulsions equalled sepsis as a cause of death, in the last trimester of pregnancy (31 per cent). One-third of the women in the study were primiparae and two-thirds were multiparae (6,854). The study shows that the risk of childbearing is greatest for mothers under 15 years of age. The most favorable ages are 20 to 25 and after 25 the mortality figures reach the maximum at 45 or over. This is true for both white and colored.

One hundred and ninety-five women had laporotomies in ectopic pregnancy. Only 25 of these had a blood transfusion. Of course this is not always possible, but a very few of them had any sort of intravenous treatment at all. The removal of an appendix at such an operation I do not think is considered good surgery. Probably the most outstanding finding of the study is that 25 per cent of all the deaths followed abortion. As sepsis is the greatest single cause of maternal death, it was equally as startling to find that 45 per cent of the deaths from sepsis followed abortion.

2,948 women died of sepsis.

1,529 died in the last three months of pregnancy and 1,403 before.

1,386 of those who died in the last trimester had a spontaneous onset of labor. These labors terminated spontaneously in 65 per cent and artificially in 34 per cent.

Why should a woman who has a spontaneous onset of labor develop puerperal sepsis? I am fast beginning to believe as many women develop sepsis from their surroundings. I am convinced of the fact that a mask that covers the nose and mouth should be worn by everybody in the room with a woman during the first and second stages of labor.

Women dying of sepsis following operations developed sepsis earlier than those who developed the diseases following spontaneous delivery. 1,324 abortions preceded deaths from sepsis. Of these 64 per cent were induced (not therapeutic); 32 per cent were said to have been spontaneous and 4 per cent were therapeutic.

The chief method of attack against the severe toxemias is conceded to be their early detection and control. This means contin-

uous, intelligent, medical supervision from early pregnancy, early recognition of untoward symptoms, prompt and judicious treatment and the co-operation of the patient. A few patients died who apparently had all these safe-guards.

The vast majority of patients dying from toxemia lack some or all of the care mentioned. It seems probable that with the present state of medical knowledge, that death from toxemia can not be entirely prevented. The physicians were not responsible for many of these deaths. They either saw the patients too late or their advice was not accepted.

Three-fifths of the women were in convulsions or coma or otherwise in poor condition when first seen by the physicians.

Occasionally women were seen early in pregnancy and the advice about their pre-natal care was not accepted. Very few were seen in the pre-ectopic stages and induction of labor advised but the advice not accepted. On the other hand the study reveals a serious condition for which physicians were responsible.

12 per cent of the toxemias received good pre-natal care. The symptoms of the approaching toxemias were recognized promptly, but the treatment was at fault. Induction of labor (as distinguished from accouchement force) was done in surprisingly few cases. Pre-natal care, so far as the toxemias are concerned, will not save lives unless good clinical judgment and treatment are used.

It is now generally conceded that radical treatment in eclampsia is rarely indicated. The dire results of such teaching are evident: almost universal resort to immediate operative interference in all types of cases and in all "sorts" of practitioners. Eclampsia was the most frequent indication for cesarean section. Often times the sections were done without regard to the profound shock from which many of the patients were suffering and without consideration for the proper anesthetics. Operative interference of all sorts was frequently found even in multiparous women. There were more than occasional cases in which rising blood pressure was observed, but its importance was evidently not realized.

In many cases treatment other than vague advice as to diet or the prescription of a diuretic was far from prompt. In other cases (202) treatment was an immediate accouchement force which, though prompt, would not be called judicious by any leader in obstetric thought today.

Few women were treated along the conservative lines now expected, with fluids, dextrose, magnesium sulphate, morphine and induction of labor. There can be no question but that failure to institute prompt treatment and an injudicious treatment given contributed to

many of the deaths. It is evident that some sane, conservative treatment for eclampsia should be agreed upon and knowledge of it should be widely disseminated.

If hemorrhage in placenta previa caused pain patients would consult physicians early and would not be content with delayed treatment. Warning bleeding occurred in 224 cases. This bleeding was ignored by the patient or physician in 216 cases, and in more than half of these the physician alone was responsible for the delay. Placenta previa is not a condition that can be treated successfully expectantly. Here is an example:

Patient admitted at term. Had been bleeding off and on for two months. Profuse hemorrhage one month before admission. In labor on admission, bleeding and passing clots. Placenta previa was diagnosed by vaginal examination. A profuse hemorrhage nine hours after admission.

Treatment: Ice cap to the abdomen, elevation of foot of the bed and ergot. Flowing freely 22 hours after admission. Ice cap replaced and morphine given. Still bleeding 27 hours after admission. Five hours later she was still bleeding and showing signs of shock. She was delivered while in shock by version and extraction and baby stillborn. Given 1000 cc. saline, died five hours after delivery.

Version to control hemorrhage was rarely done. Manual dilatation of the cervix followed by version and immediate extraction, which is practically always contraindicated was done in many cases regardless of the condition of the patient. The frequency of severe lacerations, rupture of the uterus, hemorrhage and shock, with death immediately after delivery illustrates the seriousness of these procedures, and the fact that they are not proper in the treatment of placenta previa.

Nearly all the deaths from placenta previa occurred immediately after delivery. Relatively few (53 out of 408) died of sepsis. Treatment for shock in connection with hemorrhage was rarely mentioned. Using the buttocks of the baby to control hemorrhage and allowing the patient to deliver spontaneously was seldom done. Many women with placenta previa die of post partum hemorrhage, yet only 31 women were packed after delivery. That seems to suggest that if proper packing were at hand it would be used more often. Certainly blankets and sheets would not be used followed later by death from sepsis. A woman with eight normal deliveries, at or near term was bleeding in the last month of her pregnancy. She was packed several times by several physicians. Baby blanket was used in one instance. She was sent 30 miles by ambulance to a hospital. A classical cesarean section was done and she died of sepsis in 5½ days.

Rupture of the membranes was seldom done

for lateral placenta previa in multiparous women. It should be emphasized that cesarean section is contra-indicated in placenta previa when the patient is in shock or has potential or actual sepsis. The treatment of placenta previa is to control bleeding and treat shock and acute anemia. It is not to effect immediate delivery of the foetus except as a means to this end, and then only in properly selected cases.

May I express to your Assembly my gratitude at your invitation and my thanks for your courteous attention.

Neurological Problems In General Practice*

I. S. Wechsler, M.D.

Professor of Clinical Neurology
Columbia University
New York City

Neurology, perhaps more than any other branch of medicine, is so very intimately bound up with general practice that it least permits of that dissociation which unfortunately goes with extreme specialization. If it be true that no specialty, however narrow, can with safety, either to the practitioner or to the patient, be dissociated from general medicine, it is infinitely more true of neurology. Owing to its vast growth in recent years this observation is sometimes overlooked or casually ignored. And yet the fact remains that many a neurological diagnosis can only be based upon a sound knowledge of medicine and that numerous neurological conditions are merely incidental expressions of general pathological states. To say that a patient has a cerebral thrombosis and hemiplegia and ignore the hypertension, nephritis or endocarditis, which may be the underlying cause, or to make a diagnosis of epilepsy and overlook an adenoma of the pancreas is to show skill in neurological technique but not to practice medicine.

If the validity of this point of view is granted, as I think it well can be, attention may be called to its corollary; namely, that the general practitioner is often compelled to think in terms of neurology. Neurological problems frequently arise in the course of many a general disease, local or general signs of involvement of the nervous system often herald its onset, and neurological manifestations sometimes remain as sequels. To be a good clinical neurologist, therefore, one must think primarily in terms of general medicine, and to be a good general practitioner one must have fair

acquaintance with neurology. Knowledge of, or at least sound acquaintance with, psychiatry, more particularly the psychoneuroses, is equally necessary.

A discussion of the neurological problems arising in general practice, to be complete, would require an exhaustive digest of a text book on medicine and one on diseases of the nervous system. Fortunately limitations of time and space forbid a task which may prove exhausting alike to the writer as to the reader. I shall therefore restrict my remarks to a few of the more important and the more common conditions, call brief attention to the role of the hypothalamic vegetative centers and the psychogenesis of organic disease, and conclude with a few general observations on the mental or psychiatric aspects of physical disease.

The most common and most important signs of involvement of the nervous system which the general practitioner is apt to encounter occur in the course of vascular, cardiac, and renal diseases. There are certain toxins, poisons, infectious organisms and other noxious processes which have special predilections for the nervous system. The nervous system, too, is fairly sensitive to anemia or anoxemia, hyperemia, inanition, and vitamin privation. Each one of these factors may give rise to a more or less definite clinical picture. But what is more characteristic is the fact that the reaction of the nervous system is frequently the same irrespective of the cause. Whether there be an embolus, a hemorrhage, a thrombosis, a focus of infection, or even a tumor, the local signs and symptoms, reflecting as they do anatomical localization and special physiological function, are apt to be fairly similar, if by chance they happen to affect the same regions. The onset, course, and outcome may vary, of course, but the pathological and clinical manifestations depend considerably more on the intensity of the process, the rate of progress, and the location of the lesion than on its nature.

Acute anemia of the brain causing anoxemia may result in poverty of attention, memory defect, tremor, dysesthesias, impairment of auditory and visual acuity, mild epileptiform or general convulsions and local paralyses. Passive congestion also causes anoxemia and may give rise to the same signs and symptoms, with the difference that there is cyanosis instead of anemia. Visual disturbances, such as diminution of acuity, hemeralopia, and hemianopsia may follow severe loss of blood, but generally not before three to eight days and not after three weeks. Cerebral thrombosis may occur in the course of simple though severe anemia or result from congestion such as is seen in purpura. The last, however, may also give rise to hemorrhage. Cerebral hemorrhage occurs in a very large proportion of

*Read before the 52nd annual meeting of the Mid-South Post Graduate Medical Auxiliary, Memphis, Tenn., Feb. 11-14, 1936.

cases of asphyxia neonatorum; in infant hemorrhage right after birth, the venous sinuses rather than the arteries are apt to be the seat of rupture. Delayed coagulation time, such as is seen in hemophilia, may result in cerebral hemorrhage. The anemia of chlorosis, now fortunately rare, causes lassitude, torpor, irritability, neuralgic pains, headaches and insomnia. These symptoms of anemia can be equally characteristic of cerebral hyperemia. The mental apathy and general lassitude seen in hookworm disease are due to anemia of the brain.

Cerebral vascular accidents, occurring in the course of hypertension, arteriosclerosis, and valvular or myocardial disease, are generally divided into thrombotic, hemorrhagic and embolic. To these may be added the progressive cerebral softening, or encephalomalacia, which also is the result of vascular disease. Distinction is generally made between an embolic and hemorrhagic process on the one hand and thrombosis on the other by the suddenness of onset of the one and slowness of the other. This distinction does not always hold in the case of hemorrhage versus thrombosis. The former may be comparatively slow and the latter fairly acute. Contrary to previously held views, thrombosis is many times more common than hemorrhage. In one very large series of cases which I had occasion to study the ratio was almost as ten to one. Both, of course, depend on local disease of a cerebral vessel. This may be part of a general process, such as arteriosclerosis, or be an isolated instance amidst otherwise healthy cerebral vessels—a condition apt to occur in younger persons. The prognosis, as to life, obviously is good in such cases. However, diffuse cerebral arteriosclerosis may also occur in fairly young people: I had occasion to see three such instances, all of them fatal, in children of one family. It is worth re-emphasizing at this point that cerebral and subarachnoid hemorrhage, more common in the young, on the basis of aneurism of the blood vessels, nearly always is the result of local disease. Hence why rupture of an aneurism is so often unheralded by preceding signs and symptoms. Contrary to aneurisms elsewhere in the body, which very commonly are syphilitic in nature, cerebral aneurism is the result of arteriosclerotic or antheromatous changes or of mycotic emboli which settle in the wall of a vessel and weaken it. Congenital anomalies may on occasion be responsible.

Cerebral emboli generally occur in valvular disease of the heart, especially in mitral stenosis, in coronary occlusions and myocardial disease, and in vascular accidents occurring in the course of abdominal operations or disease, which are frequently diagnosed as embolism, are nearly always thrombotic in na-

ture. Aside from the fact that some emboli from the abdominal viscera must first pass the portal circulation and be filtered out in the liver, all would have to come through the pulmonary circulation before getting into the left ventricle in order to reach the general circulation. The result, except in the instance of patent foramen ovale, would be an infarct in the lungs. Emboli to the brain from the lungs, such as may occur in pulmonary abscess or bronchiectasis, aside from the fact that they are apt to be multiple, generally give rise, first, to septic focal encephalitis and ultimately to abscess of the brain. The emboli from bacterial endocarditis are also apt to be multiple and to follow each other in time if the patient survives long enough. Although comparatively rare, brain abscess may result from an embolus occurring in the course of bacterial endocarditis. Air emboli to the brain may occur in the course of artificial pneumothorax and in operations on the neck or in the pelvis. Fat emboli are even rarer, but may occur in fractures of long bones.

The early symptoms of cerebral arteriosclerosis are often vague and frequently confusing, and may mislead the unwary. Essentially they consist of headache, dizziness and possibly noises in the ears, insomnia, lack of power of concentration with slight memory impairment, irritability and fatigability. Because of the subjective nature of these complaints and because of their similarity to those so frequently seen in neurotics, the temptation is to make a diagnosis of psychoneurosis, all the more as cerebral arteriosclerosis is generally associated with advanced or old age. But it is a good clinical rule to follow, first, not make a diagnosis of psychoneurosis by exclusion alone and, second, not to make it in a person past middle age who has previously been fairly well adjusted. Rather should one think of some incipient organic brain disease, such as tumor of the brain, general paresis and cerebral arteriosclerosis or of a general disease like pernicious anemia, Addison's disease, tuberculosis or an obscure carcinoma. Failure to heed this rule may lead to chagrin inevitable on learning that a patient labeled psychoneurotic suddenly got a stroke. I speak from somewhat painful experience. Nor should one make the diagnosis of cerebral arteriosclerosis on subjective symptoms alone. However young the patient, and arteriosclerosis is not rare in middle-aged individuals, there is always apt to be some tell-tale organic sign. There generally is found some degree of hypertension, the heart may be somewhat enlarged, the urine may show some dysfunction of the kidney, the peripheral vessels may be sclerotic, an arcus senilis may make its appearance, and particularly the retinal arteries are likely to show some degree of sclerosis. As the disease progresses other

signs come to the fore, such as fleeting pareses, true memory defect, definite changes in the reflexes, and alteration of mood, character and personality. The point is that cerebral arteriosclerosis commonly is one aspect of a general disease and shows itself neurologically in mental symptoms and physical signs.

Also based on vascular disease, but in this case the result of arteriolar involvement, is the clinical picture which goes by the name of hypertensive encephalopathy. It may simulate rather closely the organic psychosis seen in general paresis, and not infrequently occurs in younger persons. The kidney may be free of involvement, at least in the beginning. Ischemia and edema of the brain, later small hemorrhages, constitute the pathologic picture. The clinical manifestations consist of headache and dizziness, retinal hemorrhages, speech disturbances, mental symptoms of various degrees of severity, increase of spinal fluid pressure, and at times convulsions. The cause is unknown, there always is a history of hypertension, the course is fairly rapid, the prognosis is very grave and the treatment, which consists essentially of rest, is entirely symptomatic.

Spontaneous subarachnoid hemorrhage on the basis of aneurism of the brain, already alluded to, gives rise to a meningeal syndrome characterized essentially by headache (if severe enough by unconsciousness), neck rigidity and the Kernig sign, and frequently by a rise in temperature and the presence of albumin in the urine. In children one encounters, also on the basis of meningeal bleeding which is not due to aneurism, a fairly marked meningitic syndrome, with this difference, that the temperature is not high, consciousness is not seriously disturbed, the spinal fluid contains large quantities of blood, organisms are absent, of course, and the prognosis is rather favorable. Bloody spinal fluid, though rare, may be encountered in cerebrospinal meningitis. A meningitic syndrome may occasionally be met with in bacterial endocarditis, and more rarely also blood in the spinal fluid. Acute endocarditis may be characterized by psychotic manifestations.

Among less common conditions one may mention trigeminal, more particularly supraorbital, neuralgia in malaria. Both encephalitis and myelitis may occur in this disease. The former may, on rare occasions, follow ordinary vaccination, while encephalitis some times complicates measles and chicken pox. I have seen one instance in German measles. Filariasis and trichinosis may lead to meningeal involvement and run the course of meningitis. Serum sickness may temporarily be characterized by symptoms of nervous system involvement. A focal anaphylactic reaction may simulate a vascular accident: I have seen a

hemiplegia and aphasia following serum immunization against scarlet fever in a boy of nine. He recovered completely. Paralysis of nerves, particularly serratus magnus palsy, may follow injection of antitetanus or other serum. It is now fairly well established that certain cases of both migraine and epilepsy, more correctly speaking paroxysmal headache and the convulsive state, are the result of anaphylaxis or sensitization. The homonymous hemianopsia occasionally seen in migraine may possibly be due to the same cause. The very rare instances of hemianopsia occurring in pregnancy are less easily explained; they may possibly be due to increased pressure from the pituitary gland.

The neurologic aspects of leukemia, which frequently involves the nervous system, are numerous and varied. The neurologic signs may be the result of pressure or infiltration or hemorrhages into the brain and spinal cord. There may be infiltration of the nervous system and no clinical manifestation. About twenty per cent of patients with leukemia show neurological signs. Of these bilateral facial paralyses, from infiltration of both facial nerves, and involvement of the cranial nerves from the fifth to the twelfth, are not rare. Loss of deep reflexes may be the result of peripheral nerve involvement, simulating polyneuritis, and increased deep reflexes with the Babinski sign and spasticity are the result of pyramidal tract impairment. Occasionally there are signs of meningeal irritation, the spinal fluid pressure is heightened, the protein content of the fluid increased, and the number of cells may rise to many hundreds or even a thousand and more. Very characteristic are the retinal and fundus changes with the hemorrhagic strips, white infiltrations and the optic neuritis. Occasionally a Meniere syndrome with vertigo and deafness from hemorrhage into the labyrinth is encountered. Herpes may result from infiltration of the posterior sensory ganglia of the spinal cord. A syndrome of transverse myelitis with paraplegia may be met with in severe lesions of the spinal cord. Priapism is not a very rare sign of cord infiltration. In children with leukemia convulsions and coma may be the result of cerebral hemorrhage.

Hodgkin's disease extremely rarely infiltrates the nervous system and generally brings about signs and symptoms by means of pressure on peripheral nerves, the spinal cord or the brain. The cranial cavity may be invaded through the foramina at the base of the skull, or the cerebral nerves may be pressed upon after they have made their exit. I have seen one instance of tumor within the brain from extension along the pial septa. Itching and other dysesthesias may be early and distressing

symptoms. Neuralgic pains due to pressure on the peripheral nerves, paraplegia from invasion of the vertebral canal and pressure on the spinal cord, and cerebral nerve paralyses secondary to invasion within or outside the cranial cavity are not uncommon. Attention may be called at this point to the fact that signs of disease of the brain may be the first to lead to the suspicion of disease elsewhere in the body. To a lesser extent this is also true of the spine and cord. Thus a carcinoma of the prostate, lung or thyroid, or a hypernephroma, may metastasize to the brain and give rise to signs and symptoms of brain tumor. Only after the diagnosis is made does one begin to look for the primary focus. Sometimes it is necessary to X-ray the lungs, the skeleton and the gastrointestinal tract and make other search before locating the primary center, and occasionally only a necropsy serves to reveal it.

Polycythemia very frequently gives rise to neurological signs and symptoms. They are the result of the increase in the erythrocytes, of distention of the capillary bed, slowing of the circulation and of small and large thromboses and hemorrhages. Epigastric pains or sense of pressure in the abdomen, neuralgias and fainting spells may occur early. Cerebral involvement manifests itself in headache and dizziness, impairment of sensation, visual and speech disturbances, aphasia and paralyses. The last may be transient or permanent, depending upon the size of the cerebral vessel affected. Occasionally one finds choked disk. Psychosis with hallucinations may occur. Loss of reflexes, objective sensory disturbances, and local atrophies may result from vascular lesions of the spinal cord. Choreiform movements have been described. All the signs and symptoms may be fleeting in character, and recovery may even take place in case of fairly large thromboses. Vasomotor and trophic disorder occur and so do varicosities of the scrotal veins. Hyperhidrosis is another manifestation. In all cases both the signs and symptoms are the expression either of involvement of nerve structures or interference with the general circulation of the brain. Some of the more general brain symptoms are probably due to the anoxemia occurring in severe congestion.

The neurological manifestations of pernicious anemia are so well known to every general practitioner that only a few remarks are necessary. It is worth noting that signs of combined degeneration or sclerosis of the posterior and lateral columns of the cord may precede by a long time the onset of the anemia. Paresthesias and dysesthesias of the extremities and itching of the tongue may herald the onset, the former being very persistent and distressing. Absence of hydrochloric acid in

the stomach may also precede by months and years the advent of the anemia. It used to be taught that the neurological signs referred mainly to the spinal cord and consisted of ataxia or spastic-ataxic paraplegia with loss or increase of deep reflexes, loss of vibratory and position or posterior column sensation, the presence of a Babinski sign, and sphincter disturbances. To a large extent this is true; but mental symptoms ranging from irritability, depression, lack of power of concentration and slight memory defect to varying degrees of outspoken organic psychoses are not unknown. They used to be much more common before liver therapy became available, as were the severe cord signs with paralyses and bed sores. Fortunately early diagnosis and vigorous treatment have gradually eliminated the more serious neurological and psychiatric manifestations. Emphasis may be put on the early diagnosis and adequate treatment of the anemia for the reason that once cord changes set in they do not easily regress and that even the distressing pains and dysesthesias are apt to persist despite the normal blood picture maintained by continued liver treatment. The itching of the tongue and the varying dysesthesias, particularly if they happen to occur in a woman of the menopause age, are apt to be diagnosed as psychoneurotic until a blood count or gastric analysis points to the correct etiology.

While diabetic pains and even polyneuritis or spinal cord changes ascribed to the glycosuria are well known clinically, it is only in recent years that attention has been called to the neurologic and psychiatric manifestations of hyperinsulinism and hypoglycemia. Parenthetically it may be added that so-called diabetic polyneuritis probably is no neuritis at all. Excessive doses of insulin may lead to coma, which is different from the diabetic hyperglycemic coma and obviously requires different treatment, and may cause hemiplegia even though there may be no demonstrable focal pathological changes in the brain. Such cases have been described, and I have seen one instance. The history obviously is important. Injection of glucose will at once cure the coma and the hemiplegia. Hypoglycemia, however, not on the basis of insulin treatment, may cause fainting spells and a host of psychiatric symptoms. These may range from the minor symptoms generally regarded as psychoneurotic or hysterical to major outbursts and true manic psychoses. In addition, all sorts of abnormal involuntary movements, particularly choreas, are apt to be present. Restlessness may be very pronounced. Unless a blood chemistry is done or suspicion is otherwise aroused, the syndrome is apt to be very baffling. Of clinical significance is the aggravation of all

symptoms in the morning or when the stomach is empty and their amelioration after eating or the supply of glucose, orange juice or other sugars. Sometimes the hypoglycemia results in recurrent attacks of unconsciousness and somewhat atypical convulsions. These are generally regarded as epileptic and vainly treated with sedatives until the presence of low blood sugar is found. If repeated determinations continue to show hypoglycemia, adenoma of the pancreas should be thought of. Exploratory laparotomy is then indicated. Numerous cases have been reported, in which an adenoma was found and removed, with cures of the hypoglycemia and the convulsions.

The differentiation between sunstroke and heatstroke occasionally raises diagnostic problems which are of some clinical importance. In sunstroke, in addition to general congestion of the viscera, especially the lungs, and fluidity of the blood in the very severe cases known as siriasis, there is acute cerebral hyperemia and sometimes edema. The condition sets in fairly acutely after exposure, although headache and dizziness may occur as prodromata, with great thirst, pains in the epigastrium, diarrhea or vomiting, and finally prostration and coma. The skin is hot, flushed and dry, the temperature is high, sometimes reaching far above 105°F., the pulse is full, respiration is rapid or irregular and stertorous, the spinal fluid is under high pressure, and there may be convulsions. In heatstroke, which occurs in children and debilitated persons not necessarily exposed to sun rays, the pulse is rapid and small, the skin is moist, cool and pale, consciousness is not lost till the very end, and the temperature is subnormal. Obviously the treatment varies in the two conditions, and whereas every attempt must be made to reduce the temperature in the first, it may have to be raised in the second. Heat cramps belong to a different category. They consist of severe pains in the muscles of the calves and arms, occur in stokers, foundry workers and miners, and last twelve to thirty-six hours. They are supposed to be due to loss of water and chlorides by sweating. The treatment consists of morphine, warm baths, and the subcutaneous or intravenous injection or normal saline.

It would lead one too far afield to enter into a discussion of the general, medical and neurological manifestations of vitamin deficiencies. The psychiatric and dermatologic aspects of pellagra are well-known to the internist and so are the peripheral nerve changes and other neurological complications both in pellagra and beriberi. But it has only recently come to be recognized that in other neurologic conditions, some hitherto attributed to special poisons or toxins and others regarded as infectious or obscurely as degenerative, avitami-

nosis plays an important role. Thus alcoholic polyneuritis, far from being due primarily to alcohol, is definitely the result of vitamin B privation—a fact amply proved by experimental observation and therapeutic tests. The same holds true in many other neuritides. Indeed it is a grave question whether the term neuritis in such cases is not altogether a misnomer, since no inflammatory changes can be demonstrated. Therefore the writer has suggested the substitution of the word neuropathy for neuritis where there is degenerative involvement of the peripheral nerves. The polyneuritis of pregnancy, which almost invariably is preceded by intractable vomiting, undoubtedly is due to starvation and vitamin deficiency. Many other types of polyneuritis, such as occur, for instance, in cachexia and in gastro-intestinal or gall-bladder disease, are very likely due to vitamin privation. I have seen outspoken neuroses consequent upon self-imposed starvation or indulgence in fad-diets depleted of vitamins for the purpose of rapid reduction of weight.

That psychic factors, such as profound depression, intense fear, unrelieved anxiety or other so-called mental shocks can lead to disturbed physiological function and on occasion actually initiate definite pathological states, is a fact of clinical observation which hardly needs reiteration. It has long been known that psychogenic factors play a role in diabetes and exophthalmic goiter, for instance, and the statement is even made that such an intensely organic disease as paralysis agitans may follow mental shock. Gastric and duodenal ulcers are held by some to be the result of prolonged psychic upsets, and it is a fact that they are more likely to occur in high-strung, sensitive or neurotic individuals. Pylorospasm, cardiospasm, spastic colon and mucous colitis frequently occur in psychoneurotics, presumably on a psychogenic basis. But the opinion, in some instances based on clinical and experimental evidence, has begun to gain ground that many diseases, hitherto regarded as peculiar to certain organs or systems, are in effect the result of cerebral pathology or of disturbed brain function. Essential hypertension is a specific example. Attention has therefore been directed to the diencephalon or interbrain, containing the hypothalamic vegetative centers, which is regarded as the seat of pathology. The infundibulum, the tuber cinereum, and the nuclei in the floor and walls of the third ventricle contain centers which undoubtedly have to do with water and fat metabolism and temperature regulation; the so-called sleep center is in that region; and the proximity or the relationship of these structures to the pituitary gland link them with sugar metabolism and possible other metabolic functions. Diabetes insipidus and obe-

sity certainly are the result of interbrain pathology. It is therefore assumed that affection of the diencephalic region, whether demonstrably pathological or merely physiological, may initiate various constitutional or systemic disturbances. And since those regions and centers are presumably under the control of the cortex, which is the great receptive organs for psychic and other environmental stimuli, it is argued that mental states can influence and disturb the vegetative functions. That there is much truth to this view may readily be conceded. Unfortunately, there is as yet too little evidence and already too much generalization.

I have recently called attention to the occurrence of abdominal pain as a symptom of disease of the brain in the absence of demonstrable abdominal pathology. The pains which may simulate one or another abdominal syndrome, in one instance they led to unnecessary appendectomy, may occur in tumor of the brain, chronic encephalitis, and in epilepsy. The occurrence of peptic and duodenal ulcers with perforations in tumors and other diseases of the brain has been known for a long time, but the cerebral dysfunction may merely cause pain and not necessarily eventuate in gastrointestinal pathology. The abdominal cramps which the hysteric so often complains of may in effect be due to disturbed brain physiology and need not necessarily constitute what is somewhat contemptuously called belly-aching.

The mental or psychiatric aspects of organic disease either loom very large or are regarded as irrelevant if not unimportant, depending upon one's point of view and the emphasis one puts on them. If the view is correct that every organic affection expresses itself not merely in disturbance of function of a particular organ or system, but affects in addition the personality of the individual, then the mental aspects become exceedingly important. It is a fact of common observations that individuals vary in their reaction to diseases apparently of the same nature and similar intensity. Many patients respond with depression or mood and personality change to diseases which seemingly do not touch others, and quite a number show psychogenic coloration of practically every organic ailment. But aside from the minor organic affections with major psychoneurotic manifestations with which the internist constantly deals, there are many diseases, particularly debilitating ones, which cause mental symptoms and on occasion lead to actual psychoses. These do not include deliria in acute fever or toxic states or the mental manifestations, say, of uremia, cerebral arteriosclerosis or neurosyphilis. Various anemias, inanition, chronic tuberculosis, or chachectic states may be associated with mental symptoms. Endocrine diseases not infrequently give

rise to mental disturbances, ranging all the way from the minor psychoneuroses to the major psychoses. Hyperthyroidism may go masked as a neurosis or express itself in a manic state; hypothyroidism, not necessarily of the grade of cretinism or myxedema, may cause depression and mental retardation; hypoadrenia may well stimulate neurasthenia; and hypopituitarism may temporarily be mistaken for a neurosis. And so, aside from the theoretical question of the relationship of endocrine disturbance to the neuroses, the psychiatric aspects raise both diagnostic and therapeutic problems of immediate importance to the practitioner.

The problem of the psychoneuroses as they appear in general practice deserves more extensive and more special consideration than can be given in this paper. But it may be pointed out that aside from the physical manifestations which may occur in the neuroses, the psychoneurotic may develop organic disease which can go masked for a long time. It is not an uncommon experience to give scant attention to vague symptoms and then to discover that the patient had a latent carcinoma, tuberculosis of the spine or tumor of the spinal cord. Not long ago, after ignoring for a few days the complaints of a patient who was known to be a high grade psychoneurotic, I found on listening to the chest the presence of marked pleural effusion. It is imperative, therefore, to make thorough and repeated examinations of every neurotic, first, in order to convince him that his complaints are taken seriously and thus exert good psychotherapy, and, second, to avoid overlooking the presence of organic disease. Actually there is no reason why a neurotic should not develop disease to which normal mortals are heir.

It is not an uncommon experience to find neuroses precipitated by organic disease from which the patient has long since recovered and particularly by minor surgical operations about the orifices. This is especially true of obsessional, compulsive neurotic and hypochondriacal manifestations. Occasionally a schizophrenic dates its onset after a minor nasal operation; of course, in a patient who has previously exhibited a shut-in, schizoid personality. Other psychoses of the so-called emotional types may develop on the basis of organic diseases. This is particularly true of infections, among which influenza has been very commonly incriminated. The psychoses in the course of heart disease have already been mentioned. But there is one type of psychosis which not infrequently arises in the course of a progressive and fatal disease. It takes the form of an escape reaction, what is spoken of as a flight from reality. I have seen it in malignancies, in pemphigus, and other diseases. The patient develops the mer-

ciful delusion that there is nothing the matter with him, that he is not in a hospital or that he has completely recovered.

I fear that much of what I said is elementary and most of it is commonplace. But the obvious is not necessarily unimportant and its reiteration not always superfluous. My object has been not so much to call attention in somewhat skimpy, incomplete and disorganized fashion to some of the neurological problems which the general practitioner often meets and generally recognizes, as to emphasize the intimate relationship which exists between internal medicine and neurology. The vastness of neurology, which is its justification as a specialty, does not permit its cleavage from general medicine in clinical practice, nor may the difficulties of the subject serve the internist as an excuse for want of interest in it. And just as neurology and psychiatry, though separate disciplines, cannot be dissociated in practice, so cannot both of them be split off from internal medicine.

Irradiation Therapy In Breast Cancer*

JOHN T. MURPHY, M.D., F.A.C.P., F.A.C.R.
Toledo, Ohio

At this time a final evaluation of irradiation in the treatment of cancer can not be made, nor will it be possible for many years. It is now accepted by all that many cases of cancer can be arrested and to all intents cured by either X-ray or radium. One must not forget that this form of treatment is less than forty years of age and that since its beginnings it has had to contend not only with the difficulties of developing a technic for its use, but also the development of the apparatus for its production. What progress has been made is the result of the combined efforts of electrical engineers, physicists and biologists, as well as physicians, a large group to correlate. Besides these things there have been two other hindering factors, first, the over enthusiasm and super claims of some of its users, and second, the deprecation and unjust approbrium thrown upon it by its critics. I wish I could say that at present all of these obstacles have been overcome. As a matter of fact almost all of them are present today.

A word might be said here in regard to the use of the super voltage X-ray machines now looming so large in all roentgen literature. By super voltages I mean those above 200,000 volts, that now being the accepted standard. When the 200,000 volt machine was introduced

about 1920 and for a few years thereafter over exaggerated enthusiasm prevailed. These exaggerated claims did harm by offering too much, as time has proven. Much of this harm might have been avoided if serious study had been given to past results with lower voltages. It is now possible to say that use of 200,000 volts did improve results, but these results fell short of the first glowing reports. This must not occur again. At present nothing can be said except that increase in voltage is an honest effort on the part of the roentgenologist to improve the treatment of cancer. These hopes for improvement are based on previous experience. Maintain them, but let time show the results before the hopes rise too high.

To date most of the advances in the treatment of cancer of the breast have been due to surgery. No longer can it be said, as it was said before Halstead's time, that many great surgeons had never cured a case of cancer of the breast. While this is true, the results from surgery are not such as to make us close our minds to new methods. The surgeon, who operates the case, cares for the patient until the wound heals and then sees her no more, may be satisfied, but the surgeon, who knows the final results of his work, must feel that his treatment should accomplish much more.

Let us start with the Report of the Committee on Cancer of the College of Surgeons published in 1929⁽¹⁾. In this Report the material was collected from several carefully chosen hospitals, where the records were complete and follow-up satisfactory. There were 531 cases of breast cancer finally accepted for this study. Among numerous conclusions the second says: "Twenty per cent of all cases were alive and well after five years and 25 per cent of the primary cases (local disease) were alive and well." This surely is far below what the average surgeon thinks are the results from surgery. These statistics, however, do not agree with many published reports in the literature. For instance Bloodgood⁽²⁾ in 1932 said: "Before we excluded borderline cases from Halstead's statistics the percentage of 5 year cures was 85. When in 1915 I excluded the borderline cases the figure was reduced to 70 per cent." From Sweden, where the cases are well controlled, the percentages quoted by Westermarck⁽³⁾ in 1930 are for surgery alone 16.8 to 25.5. Ewing⁽⁴⁾ in 1928 held that probably 1 in 25 have a chance to have their life saved by operation alone. One could go on quoting these surgical statistics and they would show the same wide variation. Some would be hopeful; some would be pessimistic. To me these variations point to the complicated nature of the problem and the multiplicity of diseases which are grounded under the gen-

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eric term of cancer of the breast and to which we are applying one form of treatment.

When in 1894 Halstead published his results with the radical operation, roentgen rays were unknown. Following their discovery in 1895 their use in the location of bullets and the diagnosis of fractures was seen by medical men. The name of the man who first applied them to the treatment of cancer will probably never be known, but it was not long after their discovery. In an article published in 1935 Pfahler⁽⁵⁾ claims the honor of first applying it to cancer of the breast in 1902. He treated a recurrence in the operative scar.

Because this was its first use in breast cancer we will discuss the postoperative treatment first. As in the reported results of surgery alone, there is a wide divergence of opinion as to end results following its use. Let us begin our review as we did in surgery with the same Report of the College of Surgeons. There we find these conclusions. "There is no evidence in this series of cases to support the contention that prophylactic X-ray is of value as a supplement to operation in cases of cancer of the breast." And Bloodgood⁽²⁾ after reviewing his cases about the same time agrees with this statement. When this report was published many surgeons accepted it as final and discontinued postoperative irradiation. O'Brien of Boston said in his discussion of Quick's paper⁽⁶⁾, 1933, "The report on irradiation of breast cancer, which appeared in 1930 under the auspices of the American College of Surgeons, practically put an end to irradiation therapy of the breast in my particular hospital for about 2 years." This he interprets to a casual reading of the report. There is no question that the conclusions published in this report are fair from the standpoint of the material studied. Its effect on postoperative irradiation was transitory even in Boston and in some places its only effect was to stimulate reports of opposite results. Trout and Peterson⁽⁷⁾ in 1930 examined their own cases and studied questionnaires, which they sent to 138 surgeons. They drew the following conclusions from their material. "In the follow-up of our own cases we find that our results have improved since the employment of postoperative irradiation, but we do not feel that such improvement is entirely due to the irradiation, but rather to cancer education. However, we feel that postoperative irradiation is of distinct value and should be employed as a routine."

Pfahler 1935⁽⁵⁾ reports 1,129 private cases irradiated, gives his results, the technic used and concludes as follows: "All cases operated upon for carcinoma should have skilled postoperative irradiation. In operable cases with axillary glands a little more than twice as

many cases may be expected to be well after 5 years, when irradiation is added, as compared to surgery alone."

Portmann of the Crile Clinic⁽⁵⁾ in 1934 deals mostly with the technic of irradiation and the theory of its effects, but his paper shows a small but definite improvement in the results when postoperative irradiation was used.

From Germany Webster⁽⁹⁾ in 1934 says as follows: Results from postoperative series of 358 cases demonstrate that the average operative recovery rate is 42 per cent. Three-fourths of these patients were in Stage II and some even in Stage III at the time of the operation." And from Sweden, where all who are interested in the treatment of cancer know how careful and painstaking is their work and how accurate the follow-up of the Radiumhemmet, Westermarck⁽³⁾ says: "The results of this comparison as between the cases of cancer of the mammae only treated by operation and those where the operation has been combined with radiological treatment is as follows. In cases treated surgically and radiologically a 5 year freedom of symptoms is obtained in a relatively greater number of cases. The surgical statistics in Sweden show a 5 years freedom from symptoms in 16.8 and 25.5 per cent of the cases. The cases treated postoperatively show a corresponding freedom from disease in 29.3 per cent."

Many other articles could be quoted from the literature of all countries taking both sides of this argument. They would be no more conclusive nor add to the discussion. Suffice it to say that in many instances improvement in results has been reported by the use of postoperative irradiation. It should be possible to explain the very apparent differences in results reported from various places and I think it is. To me there appear to be at least three reasons. First, as more cases come early to the surgeon, more responsibility is placed upon the pathological diagnosis. The pathologist may err in two ways. He may call a malignant growth nonmalignant, which is a serious mistake for the patient, but does not alter the reported 5 year results, or he may call a non-malignant growth malignant. This is not so serious an error as the former, but, when a few such mistakes are included in the reported cases, very definite changes in 5 year results will be recorded. The second reason is, I believe, due to variations in the type of operation done. Experience with serial sections of breasts removed for very small growths, show that it is impossible to tell the extent of the disease. There is, however, a tendency on the part of some surgeons to change the operative procedure by being less radical in early cases. The best cancer surgeons consider this a mistake and the cause

of recurrences in some cases. The third reason is conservatism in post operative irradiation.

The proper postoperative irradiation of breast cancer is time consuming. The objective is to give to the entire operative field and the supraclavicular region as much irradiation as can be administered without damage to the organism as a whole, or the adjacent structures. The radiologist may also be influenced toward conservatism, for when he sees the patient there is no clinical evidence of disease. She is apparently well. The feeling is that she will remain well. Only the experience gained by following these cases will show this to be a fallacy. Both the surgery and the irradiation should be as thorough as possible to produce the best results. Most experienced roentgenologists and many surgeons who carefully follow their cases feel that there is definite merit in post operative irradiation. The exact per cent of added 5 year cures is probably between 6 and 15, an appreciable number when the surgical results are considered.

In the treatment of recurrence following operation upon the breast, the radiologist is at last on indisputable ground for even when the recurrences are local and operable, few surgeons attack them. Recurrences are of three types, those at the operative site, those to the bony skeleton, and those to the internal organs. Many local recurrences react well to proper treatment. They entirely disappear and do not recur. The patient will remain well, if distant metastases do not occur.

The Committee of the College of Surgeons Report of 1929⁽¹⁾ says: "The value of X-ray treatment of recurrence after operation is established." It is my opinion that this could be enlarged upon at the present time, for more thorough treatment is now used. The technique of one skin dose to a field will not accomplish the best results; larger doses must be used before many of these local recurrences will disappear. It is true that some of these cases will develop or have already developed distant metastasis and will die, but the local condition can be controlled. It is my practice to give the entire area a fairly large dose of X-ray, followed by an external radium pack, if some of the lesions are large and indurated. The reason for the latter procedure is that it is possible in this manner to avoid the effects of very heavy irradiation on the lung. More about this will be said later. When axillary recurrences are present the use of an insufficient amount of irradiation is more apt to occur. Many times a sufficient dose is given to the superficial portion of the growth, but not sufficient depth dose to affect the base. This is due to fear of the reaction of skin, which I also will discuss later. It is my ex-

perience that even large tumors in the axilla may be made to disappear and not recur without permanent skin damage. Here again, of course, we are at the mercy of distant metastasis, which may already be present. I believe, however, that a more courageous use of the X-ray on these cases would save some lives.

Metastasis to bone is a frequent complication. When only one bone is involved heavy doses should be used in the hope that the disease may be arrested. However, single lesions are seldom found. The bone change can not always be shown in the early X-ray films, although often present. The use of X-ray to control symptoms in bone metastasis is a recognized procedure that is always worth while. The relief from pain is sometimes miraculous and the patient may be kept comfortable for long periods. The destroyed bone may recalcify and a practically helpless patient may become ambulatory.

Metastatic lesions of the lung in cancer of the breast have always been hopeless in my own experience, although some cases arrested for 10 years have been reported. Palliation of symptoms here again makes its use worth while. The cough and pain can be lessened. Lesions of the liver and brain are hopeless, but some palliation may be achieved, especially in those of the brain. Pfahler⁽⁵⁾ in 1935, speaking of recurrent carcinoma says: "In recurrent cancer there can be little argument as to diagnosis and we are definitely convinced that irradiation is the best form of treatment. Of this group we had 476 cases (total cases in report 1,129), 21 per cent were symptom free at the end of 5 years, of 388 cases which were treated 10 years ago 8 per cent were symptom free."

Inoperable cancer of the breast, of course, if treated at all, must come under the care of the roentgenologist. There are two things that usually can be done. Life can be prolonged and the patient's comfort increased. An occasional case will remain well beyond the 5 year period. Many of these cases are in older patients, and the growths are less malignant. They present themselves in all stages of the disease, from sloughing ulcerating fixed growths with or without evidence of metastasis, to small growths with large axillary involvement. It is surprising to observe that in some cases no matter what the local condition may be, there are no symptoms of distant metastasis, and very little effect upon the general health of the patient. It is often said that cases of carcinoma of the breast are presenting themselves earlier. This is probably true, but in my experience advanced growths are not uncommon. It is my practice to accept such cases for treatment, if the general condition warrants, with the understanding that fol-

lowing the irradiation the breast shall be removed surgically, but without dissection of the axilla. This can be done when the mass becomes loose, which usually follows proper roentgen treatment. Some men disagree on this surgical procedure, but one can give less to the breast and concentrate the irradiation on the axilla. This method will cause less effect upon the lung. I have as yet to see a case in which the general condition warranted the treatment at the start, that the mass could not be loosened to that the operation was possible. The doses of irradiation necessary are very heavy. The divided dose technic is used, giving each day a dose small enough so as not to affect the general health. It may take daily treatments for 6 weeks and it is usually another 6 to 8 weeks before healing of the skin is complete. Then the local excision should be done. Some of the cases will pass the 6 year mark and while almost all ultimately die of distant metastases, the removal of a sloughing ulcerating breast and an axillary mass causing pressure, will make not only the patient, but the patient's family forever grateful.

Having discussed irradiation used postoperatively, in the treatment of recurrences and in the inoperable growths, and while the effectiveness of irradiation in these conditions may be questioned in some localities, they are known and used almost everywhere.

We will now discuss the preoperative use of irradiation, still a debatable question in most places. Preoperative treatment consists of giving to the entire area to be operated upon a sufficient amount of irradiation to destroy many and to definitely affect all the cancer cells present, the theory being that these weakened and destroyed cells will not be likely to cause either a local recurrence or dissemination of viable cells to distant parts. The amount of evidence in the literature in favor of preoperative irradiation is not great, but is growing. That irradiation lessens inoculation of cancer cells is backed by good experimental evidence. Most radiologists are in favor of its use, but few have the opportunity to use it because immediate removal upon discovery of a tumor is the usual procedure. There are several factors which make preoperative irradiation difficult. First, it requires a change from a long established practice; second the difficulty of establishing the diagnosis. Much has been written about the clinical diagnosis of breast lesions, but it still remains a fact that many can not be diagnosed without biopsy. Many surgeons feel, and perhaps rightly, that it is a dangerous procedure to cut into or remove the growth itself for biopsy and not complete the surgery at once. However, Bloodgood⁽¹²⁾ asserts that there is no danger in

giving part of the irradiation, then biopsy. If positive diagnosis be made, continue to irradiate, and do the radical operation later. I have had no experience with this procedure.

Adair and Stewart⁽¹⁰⁾, 1935, start their paper on the value of preoperative irradiation in breast cancer with the following: "It has been difficult to evaluate the statement made by various authors on the value of preoperative irradiation of breast cancer. Some authors, especially radiologists, have enthusiastically and unqualifiedly stated preoperative irradiation to be of great value without giving the criteria for such conclusions. On the other hand some surgeons have been completely unwilling to accept the considered thought of cautious students of irradiation. The truth must lie somewhere between these points of view." They report no 5 year results, but conclude: "In the light of the studies (preliminary sterilization of the tumor) it is our impression that the 5 year cures will be definitely increased by the employment of preoperative irradiation."

However, more tangible evidence is at hand from the Radiumhemmet. The following report is made by Westermarck in 1930⁽³⁾: "Sixteen and eight-tenths per cent to 25.5 per cent from surgery, 29.3 per cent for surgery and postoperative irradiation, 40 per cent when preoperative irradiation and surgery were used." As to the incidence of local recurrence he gives the following figures: "After surgical treatment alone 55 per cent, after postoperative irradiation 48 per cent, and after preoperative 29.2 per cent." Surely here is food for thought.

Experience, however, is against two forms of preoperative irradiation sometimes advocated, first, a small dose of irradiation and immediate operation, and second, a larger dose and operation within a week or two. If preoperative irradiation is used, it should be thorough, covering the entire operative field. It should be carried to the point of marked skin reaction and the operation should not be performed until this reaction has entirely disappeared. Usually the time required to give the treatment and get healing of the skin is about 70 to 80 days. In my opinion it is with the use of preoperative irradiation and surgery that improved results in the treatment of breast cancer lie.

To all radiologists at times come a patient with an early cancer of the breast, sent to the radiologist because she refuses operation, or other organic disease makes operation impossible. These patients should not receive palliative doses of irradiation, but a serious attempt should be made to effect an eradication of the disease. At times the results will be most gratifying. Because of these expenditures there is

found in the literature of the reports of a number of such cases, treated by irradiation alone, which have passed the 5 year period. These results lead to the proposal of treating these early cases with X-ray alone or by a combination of X-ray and implantation of radium needles or radon. Quick ⁽⁶⁾ in 1933 surveyed cases. Wester ⁽⁹⁾ in 1931 had the same feeling, although he added buried radium to his technic. In carefully selected cases this treatment may have a field, but it is my opinion that the more rational method is preoperative irradiation followed by surgery.

In England led by Keyes ⁽¹¹⁾, who began in 1920, there has sprung up a group of men who use radium instead of surgery in the treatment of all cases. Their technic of burying long needles of low content throughout the area usually removed by radical surgery. They also include the spraclavicular region. Their published reports of those treated in the early stages of the disease compare very favorably with the best statistics from surgery and in the borderline and more advanced cases the results are much better. They claim the technic is not difficult, but placing of radium needles accurately enough to get homogeneous dosage to all the tissues is a difficult procedure and their technic open to this criticism. The amount of radium used is from 80 to 100 milligrams. The needles are left in place for 4 or more days. The necessity for this special equipment limits its use because in many places it would not, at least at present, be available. If, however, time bears out their reported results, this method will come into more general use.

Now a few words about complications which follow the use of irradiation with modern technic. For many years due to serious accidents which occurred in the early years of the use of X-ray, the skin has been the main object of worry. In fact, most of the therapy has been planned so that no change in the skin would result. It has influenced treatment to such an extent that effects on the growth were secondary to the skin effect. With the heavier filters, divided doses, and accurate advent of voltages of 200,000 and higher, with measurements, this has disappeared. It is now possible to give several times what was formerly believed to be the maximum skin dose and growths in the depth can be adequately treated. It was also the custom to give small doses and several series of treatments to the same field. It is my opinion that this was often the cause of serious skin changes. While all will not agree, I feel that the day is here when the maximum dose should be given to a skin area in one series and never repeated, when modern methods are used. Complete desquamation and ulceration of the skin may be pro-

duced and complete healing take place. These skin changes should cause no more comment than the complications which follow severe surgical procedure. In the past one often heard that the use of preoperative irradiation made the operation more difficult. The reverse has been the opinion of most men, who have operated upon properly irradiated cases.

Lung fibrosis is a complication which may follow the use of heavy irradiation through this organ. In inoperable cancer there can be no question that the end justifies the means. However, it occurs at times with smaller doses and even when great care in directing the ray is used to prevent the maximum irradiation from passing through the lung. When it does occur, a peculiar clinical picture is produced. The lung change, as shown on the X-ray film, begins as a hazy area not unlike an early pneumonia. The interesting fact is that the clinical symptoms are entirely out of proportion to the amount of lung involved. The patient is extremely short of breath, so that the least exertion exhausts her.

Stairs can not be claimed. At times the only place where the patient can be comfortable is in bed. There is also present a dry unproductive cough, which is made much worse by exertion. Sedatives are necessary to control this cough. As the disease progresses other areas of lung become involved, while the original area partially clears. At this time contraction of the affected side of the chest begins. The extent of this varies with the amount of irradiation given. Usually at the end of 3 months the clinical symptoms have disappeared and while the fibrosis persists and contraction of the lung increases, the patient is fairly well, having a recurrence of the clinical symptoms only on more or less prolonged exertion. These lung changes are sometimes diagnosed as lung metastases, but the lung changes are quite characteristic and can usually be differentiated when one is familiar with them. I have no doubt that these changes account for at least some of the cases which have been diagnosed as lung metastasis, but have remained well for long periods of time.

CONCLUSIONS

1. Postoperative X-ray treatment adds little to the results from the radical operation when the growth is local. It doubles the percentage of 5 year cures when axillary involvement is present at the time of operation.

2. When local recurrence occurs X-ray treatment alone offers much hope for the patient. Some of these recurrent cases remain well for more than the 5 year period.

3. In inoperable growths X-ray treatment makes many growths operable, prolongs the patient's life, adds to her comfort, and in

some cases causes an apparent arrest of the tumor.

4. In distant metastases great relief of suffering can be obtained and life prolonged.

5. In view of the very indefinite picture gained from a review of the literature, some organization could do a great service by collecting data about many cases of breast cancer treated by the standard methods.

6. Some of the money now being spent seeking the cause of cancer might be used to perfect present methods of treatment. In this manner more lives might be saved.

7. If the reported results are to be improved, surgery must have the aid of irradiation. Of all methods of treatment of breast cancer, preoperative irradiation and surgery seem to offer the most hope.

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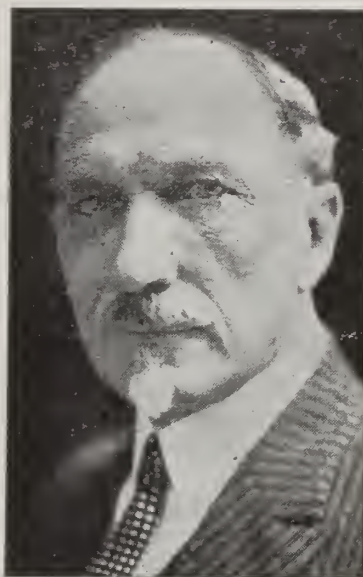
Dr. Harlow Brooks Dies

The above notice is read with interest and regret by doctors of the Mid-South, especially since Dr. Brooks' recent appearance on the program of the Mid-South Post Graduate Medical Assembly in Memphis in February of this year. He read a paper on coronary thrombosis at this meeting.

Probably no young doctor has ever missed a call to perform a delicate and dangerous operation because he did not have two or three drinks in him, but many a one has because he did.

In the strenuous race of life the boozier is a loser. Drink never helped any one to a bigger or better, a finer or freer, a higher or happier life.

Heads Southeastern Surgical Congress



Our Doctor John Darrington, now president of the Southeastern Surgical Congress. He succeeds to the presidency following the death of Dr. C. Jeff Miller of New Orleans. Dr. Darrington will do the job of presidency in fine style. He is big in brain, heart, and soul. We feel proud of him. You can trust his leadership and fear no evil.

If you sit down at set of sun
And count the deeds that you have done,
And, counting, find
One self-denying act, one word,
That eased the heart of him that heard;
One glance most kind, which fell
Like sunshine where he went,
Then you may count that day well spent.
—Browning.

The acid test of a good character is the ability to keep sweet in the midst of a sour environment.

Bruce Barton has aptly said, "Your body may live in an attic, but it is your own fault if your mind lives there also."

Ambassadors or ministers are sent to fifty-five countries by the United States.

More than 400,000 liquor sellers at present hold Federal Tax Receipts, as compared with 177,000 before 1920.

THE MISSISSIPPI DOCTOR

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The Mississippi State Medical Association meets in Greenville May 4, 5, 6. The program is unusually good. The guest speaker is Dr. Fishbein, of Chicago, editor of the American Medical Journal. This is the outstanding medical journal of the world. Dr. Fishbein has a great storehouse of information. He is a pleasing and an entertaining speaker. He is one of the most widely known men of our nation. You will certainly want to hear him. We believe the scientific program is going to be good from beginning to end. You can gain much information helpful to you in your practice from it. There will be business of importance at this meeting. Our economical and social medical problems are becoming bigger and heavier every day. If we do not handle these problems they will be handled for us. Our state meeting is the place to thrash out these matters. Every person has personal ideas, a clinical observation, a point in technique, a bit of surgical wisdom that needs to be passed on. Our state meeting is a fine place to disiminate them, to exchange our ideas

and our opinions. We need to be better acquainted one with the other. This we can do at our state meeting. A little social repast now and then is good for all medical men. A few sips of this elixir of life may be had at the meeting. Greenville is the capital of the Delta. Poor is the life that has not felt the big, broad, bounding, and exhilarating influence of the Delta spirit. A visit on the banks of the Father of Waters will give you bigness of purpose and strength of determination. It is your sacred duty to attend your state medical association. If you do not know you should learn. If you do know you should teach others. But if you do not feel the pull of duty, go to Greenville for profit and for pleasure.

At the state meeting do not fail to visit the exhibitors. You will want to see what new books are being offered. It is well to know what is being added to the surgical supplies. The biological houses are very active and they want to work hand in hand with the profession. We invite them to come and be with us. They come. They pay a big price usually for space to exhibit. We should be nice to them. We should show them every consideration. We should work hand in hand for the good of our clientele. The Mississippi State Medical Association has not managed its exhibits as well as it might have in the past perhaps. It would be possible for the funds for the exhibitors to pay a large part of the expense of the association which has been paid principally by the local society or town inviting the association. In our opinion the exhibits should be put in the hands of one man elected or appointed for a five year term by the association. He should have a certain per cent for his services and a certain per cent should go to defraying the expenses of the association. The exhibitors are a big force in boosting the attendance of the meetings. They see the doctors over the state and can easily call their attention to the program, when it meets, where it meets and the strong features of the program. We appreciate the exhibitors coming to our meeting.

At the 1905 meeting of the Mississippi State Medical Association there were two outstanding papers presented. One of these was read by Dr. J. B. McElroy. This paper dealt with matters that were not well understood or generally accepted at that time. Its title was "What we may expect from serum therapy." It is unnecessary to say that the author went deeply into the subject for the time. He discussed the various theories of infection and immunity that were then being taught—giving credit to the men who were advocating those theories. He compared and contrasted the

teaching of Metchnikoff and Ehrlich. I suspect that many who heard this splendid paper failed to be seriously interested or greatly benefited. I am quite sure that the author would qualify some statements that he made on that occasion if confronted with them today. Nevertheless it was a most excellent paper and, no doubt, blazed the way for thought and advancement along these lines. Personally, I feel that medicine and the world owes much to Metchnikoff for the research that he made and the theories that he advanced. In fact, think that we are turning more and more to his teaching as the days go by. I feel that we are coming to realize that recovery from disease is dependent upon biochemical forces within the diseased body. All therapeutic measures should be for the purpose of establishing and furthering these processes. The paper I have referred to was read in April, 1905, thirty-one years ago. Many who heard it have passed on. But during these three decades much progress has been made in the field of medicine and the author of that paper has contributed much to this progress. He has had the teaching of hundreds of men who are today applying the knowledge imparted to them by him. It affords me great pleasure to add my mead of praise and thanks to him. It is a sad and regrettable fact that we do not recognize and acknowledge our debt of gratitude to men while they still live among us. The other paper that impressed me much on that occasion was presented by Dr. P. W. Rowland Sr. This paper did not deal with any scientific phase of medicine but did deal in a striking way with the educational side of medicine. The title of this paper was "Some Phases of Medical Education." At that time Dr. Rowland was a member of the licensing board for the practice of medicine in Mississippi. He was, also, a member of the faculty of the newly created medical department of the University of Mississippi. In the beginning of this paper he called attention to the fact that young men of small literary attainments were rushing into the ranks of medicine. In fact, he made it plain by quoting, verbatim, the answers given, by applicants for license, to some of the questions, that these applicants were wholly void of any knowledge of medicine as well as having no literary foundation on which to build a knowledge of medical science. He urged the necessity for laws that would require basic educational qualifications for those who might desire to enter upon the study of medicine. I am sure that this paper, together with the presidential address of the previous year, had much to do with bringing about the demand for a change in these matters; for within two years from that time the Association went on

record as demanding an elevated standard of qualifications for the practice of medicine. It has been very interesting to me to follow the evolution of medicine in the state from that date until now. While many were licensed then and since then who were not scientists in any sense, and some of these have developed into safe practitioners of medicine. I am happy to know that few men are now entering the profession who are not splendidly equipped for the work and its responsibilities. Empiricism is disappearing and scientific knowledge is fast replacing it. It is gratifying, indeed, to see that the few young men who are being attracted to medicine are coming so well grounded on scientific understanding. Yet I, sometimes am made to wonder if there is not something lacking in their education and training. I am made to wonder if these young men, as thoroughly educated as they are in the science of medicine, would not be placed at disadvantage if they should be thrown on their own resources and left to their own initiative. I wonder if they are being taught to study their patients as individuals that are sick as much as they are taught to think of the pathology that may or may not exist. I wonder if they are not depending a little too much on the laboratory findings and too little upon the human equation and the bedside findings. I wonder if they are not depending a little too much on the efficacy of drugs and too little on sympathetic understanding of the patient's mental twists. I wonder if the modern education and training given medical students do not, in some way, render them unfit to go into the rural districts and cope with conditions there found. I shall not point out what might appear to me as defects in the teaching and training of today, but shall simply place a question mark where I feel it might properly belong

G. S. B.

The tornado at Tupelo on April 5th about nine p. m., in rank is the third greatest disaster recorded in the United States according to authorities, it seems. More than two hundred were killed, hundreds wounded, between a thousand and fifteen hundred homes destroyed, not less than three millions of dollars of property. In the twinkling of an eye it tore through the residential heart of the city and the face of the beautiful city was literally and completely changed into the most horrible sight Dixie land ever observed. Wreck and ruin, death and mutilation dropped out of the clouds in a flash. The wonder is why the death toll was not at least a thousand. Three million dollars in property loss, but the greatest money loss was in human life. The homes of five doctors were demolished, but

not the life of one was taken. Surely they were spared for a purpose. Too much sympathy and too much help could hardly be possible for Tupelo. We are grateful that the life of no one of our profession was taken. Sympathy, praise and honor to the doctors of Tupelo. No soldiers were ever more brave, more heroic, than they in this time of distress. The silver lining in this dark cloud came in the response of the neighboring towns, the doctors, the hospitals, every one near, and then beyond the confines of our state. The hospitals and doctors of Memphis, Meridian and Birmingham did such a noble part. The Red Cross has been the loving mother so helpful. The American Legion were noble helpers; the railroads are due praise and credit. Our whole nation opened its heart of sympathy and held out its hand of material aid. The world is safer than we thought as evidenced by its pulse beat of sympathy.

On the same night, about forty-five minutes before the Tornado at Tupelo, Booneville, thirty miles north, was visited by one proportionately as bad except "it struck" mainly on the outskirts of the town and in the country. Four were killed in the town, about twenty injured, and many thousand dollars of property destroyed.

We greatly appreciate the advertisement of the Mississippi Engraving Company, Jackson, Miss. You are often asked to furnish a cut for the journal. Send your picture to the Mississippi Engraving Company, ask them to make your cut and forward to The Mississippi Doctor. This is a fine way to do it. Thanks to the Mississippi Engraving Company. Good Luck to you.

Now let us prove the advantage of the per capita distribution of funds for the indigent sick. Let the hospitals, the family physician, the neighbors, the trustees be on guard to see that the funds are well distributed over the county, over the entire twelve months, and that urgent emergency cases have preference. Let us not fall down on an important job.

We are very grateful for the encouraging words that have come from many doctors over the state since The Mississippi Doctor became the official organ of the state association. We are anxious to have the good will and the cooperation of every one so that we may make it the best, the most serviceable, state journal in the south.

The American Medical Association meets in Kansas City May 11-15 inclusive. You should attend if at all possible.

You will note the new one-half page ad of The McKesson-Doster-Northington Inc., Birmingham, Ala. We greatly appreciate this cooperation on the part of this company which is able to furnish you almost anything you need and do it promptly. They are courteous and obliging in every way. Give this company due consideration.

Dr. Percy Wall, of Jackson, has rendered some fine service to the Mississippi State Association for the last three years as speaker. He knows the rules, he is fair as a presiding officer. He saves us time. We are due him much gratitude. We appreciate his efforts.

We appreciate all of our advertisers. If you are interested in helping to make The Mississippi Doctor the best state journal in the south please buy from the ones who advertise with us, other things being equal.

Drs. Hill and Garrison, President and President-Elect, have worked hard and harmoniously this year for the good of the association. We deeply appreciate their cooperation with the journal in every way.

For state medical news Mississippi holds the lead under the direction of Dr. Leon S. Lippincott.

Book Review

We have just received a copy of The Surgical Clinics of North America, the February issue, Vol. 16, No. 1. Chicago Number. It contains 356 pages with 78 illustrations. It carries a symposium on Cancer of the Cervix, including the following clinics: Fred L. Adair, Symptomatology; Mark T. Goldstine, Diagnosis; Herbert E. Schmitz, Form of Treatment; Henry Schmitz, The Complications of Surgical Eradication of Carcinomas of the Uterine Cervix; William C. Danforth, the Control of Pain in Late and Inoperable Cases; Frederick Falls, The Treatment of Preoperative Cases; Joseph L. Baer, Carcinoma of the Cervix Complicated by Pregnancy. There are fifty-six contributors in this volume on the various surgical subjects, including many very common ones as treatment of facial palsy, torticollis, present status of the problem of appendicitis, fracture of the jaw, gangrene, hemorrhoids by injection. The articles are concisely and interestingly written. You can ill afford to be without the Surgical Clinics of North America. The Clinic year runs from February, 1936 to December, 1936, in paper binding \$12.00, cloth \$16.00, published by W. B. Saunders Company, Philadelphia and London.

Who's Who In Mississippi Medicine



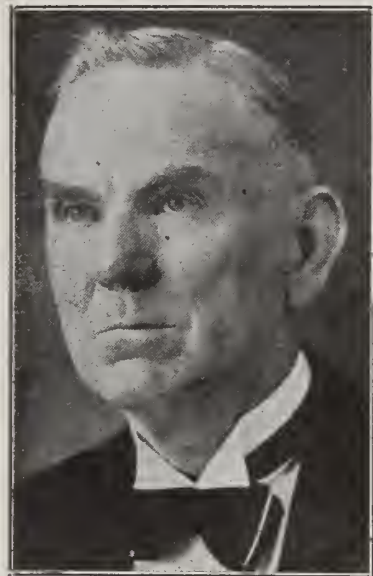
DR. H. A. GANT

Who used to be Who in Mississippi is now living in Columbia, Tennessee. He is four score and four years. But he is active and alert. Yellow fever at one time caused uncertain horror like a tornado in Mississippi. People ran from it, but they did not know which way to go nor where. Dr. Gant is going to tell you something very interesting about this disease, its death toll, how it was treated, its symptoms, et al. It will be interesting. It will be instructive.

Dr. Gant was born in Columbia, Tenn., March 28, 1852. His parents were John Isom and Martha Jane Coke Gant. In his early childhood they moved to Desoto county, Miss., and later to Oxford where he attended the University of Mississippi. He attended Vanderbilt University, and in 1875 he graduated in medicine from University of Pennsylvania in 1875. He then began practice in Water Valley. He had yellow fever two years later. He was soon appointed county health officer. In 1878 he joined the state medical association. He spent fifty-one years in Mississippi, thirty-one in active practice, was a delegate to the American Medical Association several times during this period. He is still active in civic affairs and his church, Presbyterian.

In 1893 he became a member of the State Board of Health. As a member of the state board he was in the thick of the fight on yellow fever. He helped to find out how and what to fight. If you want to drink of the romance of Mississippi medicine, you will enjoy the articles by Dr. Gant. We are delighted to publish his series of articles to record many interesting facts and so that he may know of the great problem of yellow fever with which our forefathers in medicine had to grapple. Glory and honor to this stalwart veteran for his services against our most dreaded foe in the eighties and nineties.

Dr. J. R. Hill



For an administration of progressiveness, attended by harmony and good feeling, we do homage to Dr. Hill. He realizes that the life of the association thrives upon an agreeably consonate working of all its parts, and his personality inspires good will and an unselfish intent. His zeal for a greater membership is one of his noteworthy accomplishments, and the fine program which awaits you at the meeting in Greenville attests his high ambition for the best.

Dr. Hill's message is characteristic in spirit of the admired president's untiring service to the association in time, energy and brains.

To the Doctors of Mississippi:

The annual meeting of the Mississippi State Medical Association is fast approaching. The people of Greenville are saying, come one, come all, we want you and will take care of you. The program is about ready for the press and will be mailed out in a short time. You will find it well balanced and practical, one that the doctors will appreciate. Aside from the regular program I expect questions of vital interest to every doctor in the state to be introduced and discussed. If you fail to attend you will miss something you should know.

Dr. Morris Fishbein of Chicago is our annual orator and with his storehouse of knowledge and pleasing oratory will be worth the going to Greenville to hear. We are extremely fortunate in having him to speak to us at this time. I think this is the first time in the history of the Association that we have secured the services of an officer of the A. M. A. as guest speaker. We will have a number of

visiting speakers or essayists and I am sure there is a treat in store for us on this occasion. The Woman's Auxiliary is planning to provide features of attraction to the social part of the program. I hope every doctor will lay aside his routine work for a few days and join us at Greenville on the fifth of May that we may not only have a profitable meeting but one overflowing with friendliness, good fellowship and lots of fun and strengthen the ties of the organization.

DR. J. R. HILL, President

: o :

To the Officers and Members of the Medical Societies of Mississippi

My dear Doctors:

My information is that we are going to have one of our very best programs for the State Medical Association at Greenville, this year.

I have just been in correspondence with the other officers of the association in regard to the hotel facilities for the physicians who an-

ticipate attending this meeting. I have been assured that ample arrangements have been made to take care of everything. Write Hotel Greenville for reservations, immediately, and they in turn will give your letter to the proper committee to handle your reservation.

There are some very important matters to be brought before the Association at this meeting, for the benefit and protection of the medical profession of this state. It behooves every member of the Mississippi State Medical Association to be present.

Allow me to again insist that you, at this final moment, go out and get a few more members, for your local and State Medical Association, before going to Greenville, in order that our membership will be at least equal to, or exceed that of last year.

Anticipating with much pleasure the opportunity of seeing you at Greenville, I am, cordially and sincerely,

Your servant,

HARVEY F. GARRISON,
President-Elect, Mississippi State
Medical Association

OFFICIAL PROGRAM

Sixty-Ninth Annual Session

Mississippi State Medical Association

Hotel Greenville, Greenville

MAY 5, 6, 7, 1936

Thirty-Third Annual Session

HOUSE OF DELEGATES

Will Meet May 5, 8:00 a. m.

WOMAN'S AUXILIARY

MISSISSIPPI STATE HOSPITAL ASSOCIATION

May 4, 1936

OFFICERS 1935-1936

President	J. R. Hill, Corinth
President-Elect	H. F. Garrison, Jackson
Vice-President	R. H. Brumfield, McComb
Vice-President	Leonard Hart, Meridian
Vice-President	G. H. Woods, Batesville
Historian	L. S. Lippincott, Vicksburg
Editor	L. S. Lippincott, Vicksburg
Associate Editor	D. W. Jones, Jackson (1936)
Associate Editor	J. W. D. Dicks, Natchez (1937)
Speaker of the House	J. P. Wall, Jackson
Treasurer	E. LeRoy Wilkins, Clarksdale
Secretary	T. M. Dye, Clarksdale

COUNCIL

First District	J. W. Lucas, (1937) Moorhead
Second District	L. L. Minor, (1937) Rt. 4 Memphis, Tenn.
Third District	R. B. Caldwell, (1937) Baldwyn
Fourth District	T. J. Brown, (1938) Grenada

Fifth District	W. H. Watson, (1938) Whitfield
Sixth District	H. Lowry Rush, (1938) Meridian
Seventh District	Joe E. Green, (1936) Laurel
Eighth District	W. H. Frizell, (1936) Secretary, Brookhaven
Ninth District	D. J. Williams, (1936) Chairman, Gulfport

GENERAL MEETING—FIRST DAY

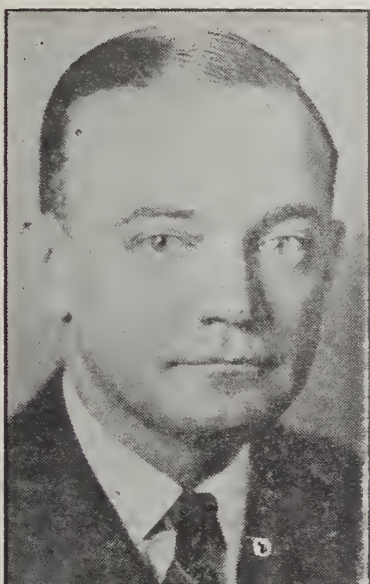
Tuesday, May 5, 1936

BALLROOM—HOTEL GREENVILLE

Session 1:30 p. m. to 6:00 p. m.

OPENING EXERCISES

1. Call to Order President J. R. Hill, Corinth
2. Invocation Rev. Wm. McMurray, Greenville



DR. FRED WHARTON RANKIN

Dr. Rankin was born in 1886, and is at present surgeon to the Lexington Clinic. Dr. Rankin, for a number of years, was head of a Section on Surgery at the Mayo Clinic, Rochester, Minn. He is the author of many articles and has written very extensively concerning surgery of the colon. He is probably the outstanding American authority in that particular field. Dr. Rankin is a member of the American College of Surgeons, the Southern Surgical Association, the Western Surgical Association, the American Surgical Association and many other organizations.

This will be Dr. Rankin's first appearance before the Mississippi State Medical Association and the subject which he has elected to present, together with his enormous experience in this particular field, insures a paper of great merit.

SECTION ON SURGERY

W. H. Parsons, Chairman, Vicksburg

1. Fractures of the Upper End of the Femur with Particular Reference to Their Treatment—Chairman's Address W. H. Parsons, Vicksburg
2. Inguinal Hernia T. E. Ross, Hattiesburg
Discussion opened by E. W. Holmes and A. Street.
3. Renal Lithiasis T. P. Sparks, Jr., Vicksburg
Discussion opened by Paul Gamble and L. B. Moseley.
4. The Symptoms and Prognosis of Organic Diseases of the Lower Gastro-Intestinal Tract Fred W. Rankin, Lexington, Ky.
5. The Use of Radium in Carcinoma of the Servix J. W. Barksdale, Jackson, and Nathan Kendall, Jackson
Discussion opened by J. A. Beals and Geo. M. Street.
6. The Maintenance of Relative Asepsis in Abdominal Surgery E. E. Benoist, Natchez
Discussion opened by W. W. Crawford and V. B. Philpot.
7. Anesthesia in Obstetrics and Obstetric Complications J. C. Culley, Oxford, and J. R. Sims, Jr., Oxford
Discussion opened by B. H. Higdon and W. N. Jenkins.
8. Spina Bifida H. Lowry Rush and Leslie V. Rush, Meridian
Discussion opened by J. A. K. Birchett, Jr., and R. B. McLean.

EVENING SESSION—EIGHT O'CLOCK

E. E. BASS JUNIOR HIGH SCHOOL AUDITORIUM

Tuesday, May 5, 1936

The Public Is Cordially Invited

1. Invocation Rev. J. W. Ward, Greenville
2. Addresses of Welcome:
 - On Behalf of the City of Greenville Mayor M. C. Smith
 - On Behalf of the Delta Medical Society J. W. Lucas, Moorhead
3. Response to Addresses of Welcome Pres.-Elect H. F. Garrison, Jackson
4. In Memoriam By the Secretary
5. President's Address—Some Accomplishments of Organized
Medicine in Mississippi J. R. Hill, Corinth
6. Ewing Fox Howard Oration—Medicine and the Changing
Social Order Morris Fishbein, Chicago



DR. HAROLD L. WARWICK

*Born 1877.**Graduated Univ. Georgia 1900.**Registered under act of 1907.**Fellowship in American Medical Association.**Practice limited to Otolaryngology, Ophthalmology, Laryngology, Rhinology.*

SECTION ON EYE, EAR, NOSE AND THROAT

W. F. Cotten, Chairman, McComb

Wednesday, May 6, 1936

BALLROOM—HOTEL GREENVILLE

Session 9:00 a. m. to 12:30 p. m.

1. Modern Ophthalmology James B. Stanford, Memphis
Discussion opened by Van Dyke Hagaman and Edley H. Jones.
2. Ionization in Nasal Allergy H. L. Warwick, Fort Worth
Discussion opened by D. C. Montgomery and E. LeRoy Wilkins.
3. The Clinical Significance of Episcleritis A. G. Wilde, Jackson
Discussion opened by George Adkins and Henry Boswell.

4. Tonsillectomy: Indications, Methods, Results . . . D. W. Hamrick, Corinth
Discussion opened by S. B. Caruthers and N. S. Dickson.

DR. JAMES B. STANFORD

President Memphis and Shelby County Medical Society for 1935. His election is a well deserved recognition of his years of earnest work in Memphis, where he has spent all of his professional life. Academic work University of Arkansas, where he received a B.S. degree in 1906. Medical school which is now the University of Tennessee in Memphis, graduation in 1909. Intern at Memphis General Hospital, short time in general practice. New York Eye and Ear Infirmary and did special work in ophthalmology and otolaryngology in 1911 and 1912, since which time he has practiced those specialties, confining himself to ophthalmology for the last fifteen years. Special work at Harvard University. Dr. Stanford served in the World War as an officer in the Medical Corps, attached to Base Hospital 57, A.E.F., and was discharged with the rank of Major.

Dr. Stanford was for many years connected with the Dept. of Ophthalmology of the U. of T.

Dr. Stanford's appearance at the State meeting is anticipated with great pleasure by his many Mississippi friends.



DR. ALVIN E. KELLER

Department of Preventive Medicine and Public Health, Vanderbilt University School of Medicine, Nashville, Tenn.

Born, Birmingham, Alabama, October 3, 1898.

A. B. degree, University of Alabama, 1920.

M.D. degree, Johns Hopkins School of Medicine, 1924.

House officer surg., Hopkins Hospital, 1924.

County Health Officer, Alabama, 1925-27.

Instructor in Preventive Medicine and Public Health, Vanderbilt University School of Medicine, 1927-30.

Assistant Professor of Preventive Medicine and Public Health, Vanderbilt University School of Medicine, 1927.



SECTION ON HYGIENE AND PUBLIC HEALTH

B. D. Blackwelder, Chairman, Hattiesburg

Wednesday, May 6, 1936

Session 9:00 a. m. to 12:30 p. m.

1. Management of Syphilis from a Public Health Standpoint . . . V. B. Harrison, Holly Springs
Discussion opened by Hardie R. Hays and F. Michael Smith.
2. Poliomyelitis—A Review of Recent Literature . . . J. W. Shackelford, Greenville
Discussion opened by J. K. Bullock and F. M. Acree.
3. An Evaluation of the Clinical Manifestations of Hookworm in Children . . . A. H. Keller, Nashville
Discussion opened by H. B. Cottrell and T. P. Haney, Jr.
4. Laboratory Aids in the Diagnosis of Communicable

Diseases N. C. Knight, Clarksdale
 Discussion opened by A. L. Gray and W. H. Cleveland.



DR. FRANK J. HECK

Dr. Heck, B.S., M.S., in Pathology, M.D., F.A.C.P., was born June 1, 1897, at St. Paul, Minnesota, and received the degree of B.S. in 1919 from the University of Minnesota. He entered The Mayo Clinic as first assistant in clinical chemistry August 17, 1920, and The Mayo Foundation as Fellow in Physiological Chemistry. His services included clinical pathology and bacteriology, thirteen months. He left The Mayo Foundation September 27, 1921. He attended the University of Minnesota Medical School and received the degree of M.S. in Pathology and of M.D. in 1926. He was an intern at Cincinnati General Hospital from 1925 to 1926. He returned to The Mayo Foundation as a Fellow in Medicine Oct. 1, 1926. His services included general medical and surgical diagnosis, thirty months; neurology, six months, and experimental medicine, three months. He was appointed first assistant in medicine, Jan. 1, 1928, and associate in medicine, The Mayo Clinic, July 1, 1929. He is assistant professor of medicine, The Mayo Foundation.

SECTION ON MEDICINE

H. L. McKinnon, Chairman, Hattiesburg

Wednesday, May 6, 1936

BALLROOM—HOTEL GREENVILLE

Session 2:00 p. m. to 6:00 p. m.

1. Prevention and Treatment of the Late Toxemias of Pregnancy John F. Lucas, Greenville
 Discussion opened by R. C. O'Ferrall and J. P. Culpepper, Jr.
2. The Practical Treatment of Nnemia Frank Heck, Mayo Clinic, Rochester
 Discussion opened by G. W. F. Rembert and W. A. Dearman.
3. Blood Chemistry in Kidney Disease Leon S. Lippincott, Vicksburg
 Discussion opened by A. H. Little and L. J. Clark.
4. Asphyxia in the New Born V. C. Temple, Hattiesburg
 Discussion by H. F. Garrison, Jr., and N. C. Womack.
5. Diagnosis and Treatment of Influenza—Pneumonia Joe E. Green, Laurel
 Discussion opened by R. B. Caldwell and W. H. Anderson.
 (to be continued Thursday morning)

SECTION ON MEDICINE

H. L. McKinnon, Chairman, Hattiesburg

Thursday, May 7, 1936

BALLROOM—HOTEL GREENVILLE

Session 9:00 a. m. until completed

6. Arthritis Walter E. Johnson, Vicksburg
 Discussion opened by Thomas Blake and John Darrington.
7. Some Common Fungus Diseases of the Skin Karl O. Stingily, Meridian
 Discussion opened by R. W. Hall and F. G. Riley.
8. Sinus Disease and Nasal Allergy Robin Harris, Jackson
 Discussion opened by G. W. Owen and B. S. Guyton.

HOUSE OF DELEGATES

There will be ample accommodations for all who wish to attend the meetings of the Hospital Association. If you wish room reservation, write to Dr. C. P. Thompson, Greenville, and rooms will be assigned you. Kindly attend to this early, but in the event it slips your memory, come on to Greenville anyway, and notify Dr. Thompson immediately upon your arrival.

Dr. H. M. Anderson

An ornament to one of America's most efficient institutions of mercy, possessor of a searching, penetrating, scientific intelligence directed at the world's dreaded scourge. An invertebrate worker he would have asked no greater boon from providence than more days of opportunity to extricate problems and wonders. He fell fighting forward leaving an ineradicable grief on the mind of every thinking man.

Every ounce of his kindly, smiling frail form was ever devoted to his profession's highest ethics. Tired, weary, exhausted he paused; a pure brilliant spirit flighted to a better, grander, higher sphere, a phalanx of devotees whom he encouraged and transplanted hopes are love's legions to his princely memory.

Blending a life's intellectual knowledge, trained skill and accomplished attainments to reach and harmonize society and humanity's greatest need is sanctified service in this world—Love.

Dr. Anderson was a real humanitarian, a great doctor and healer, a faultless and gentle personality, a dependable friend, a lovable character, a manly man.

He measured life's object early by mastering civic duty righteously, supremely appreciated while here, and sorely missed when gone, leaving an example of transcendent influence. Such a man—such a life, is civilization's greatest heritage.

His patriotism springs from the fact, he was ready when his country called. The highest pedestal of civic citizenship comes from the truth of his unstinted and unselfish service to the despondent, desolate, friendless and unfortunate.

Like other embrazed magnets of time, he passed on, yet remains here, and always will, a loveable, living dream perpetuating a will, a plan glorified by another Great Healer, some 1900 years ago.

Dr. Anderson illuminated an eminent career, by binding trained skill and experienced wisdom to a sympathetic gentle nature, ministering to the helpless, sick and distressed. What he gave to science stays on. The love he lived and left lives on, a leader of Christian habit and custom, elegant, gentle, courteous, personal perfection, unstained, pure life. Constructive learning to others, gratis. He moved into the ages from the highest possible pinnacle here.

D. T. TAYLOR

Sanatorium, Miss.

The Scope of General Surgery*

GEORGE F. CARROLL, M.D.

Biloxi, Miss.

As the title of this paper implies, it will be my purpose to deal with surgery in a general way. In operative work in special fields, we will not deal with the surgical specialties, as the number of gynecologic, obstetric, genito-urinary and orthopedic conditions treated by specialists in those branches must be a small proportion as compared with such cases treated by the general surgeon. Probably there is a smaller percentage of eye, ear, nose and throat conditions treated by the general surgeon, than those of the other branches just mentioned. Yet a broad general understanding of the underlying principles of the standard operations in even these fields should be a part of the equipment of the well posted general surgeon.

Undoubtedly the majority of all conditions of injury in our mechanical world of today, pathological and surgical, as well as medical, are treated by non-specializing surgical men, living away from large centers, with their consultants, institutes, laboratories and other facilities. It is readily appreciable why it is necessary for these men to have a broad knowledge and understanding of the conditions encountered in order to wisely apply the necessary treatment and in some instances wisely direct them to more specifically equipped centers, or call in more competent consultants, in order that the patient may be safely and efficiently treated.

Like the general practitioner who does a little surgery, the general surgeon who does a little practice must have a broad understanding of many things. He is not permitted to select his cases. They are, in many instances thrust upon him under varying and trying conditions of emergency, and he must be prepared to correctly diagnose and skillfully treat them all under conditions that are often most difficult.

In these modern times of mechanical contrivances, in town and country, the speed of travel, hurry and bustle to go and come in the shortest time, often with but scant regard for the safety of life or limb to traveler or pedestrian, the surgeon in the city of average size is confronted with many new and fearsome types of traumatic injuries, internal and external, ranging from simple abrasions to crushing, mangling injuries of all parts of the human body. Much experience, a heaven born wisdom and much skill are here needed, in

*Read before the Section on Surgery at the Sixty-Eighth Annual Session of the Mississippi State Medical Association, Biloxi, May 16, 1935.

order to properly select the procedure necessary to save life and prevent disfiguration and deformity. It is in these instances we see the final measure of the man and surgeon, a broad understanding of general surgery, an intelligent application of the principles of operative technique and the knowledge and use of applied anatomy. We cannot all hope to be a "Rudolph Matas, with his extraordinary store of surgical knowledge, very probably not surpassed and maybe not equalled by that of any surgeon living, in its depth, range and detail," but we can emulate that distinguished master surgeon with great benefit to our patients and much peace of mind to ourselves.

As Bickham has so aptly said in his article "The Art and Craft of Surgery," "Broad knowledge of the science of surgery, its involved pathology and the collateral branches of medicine, and the possession of technical ability are the prerequisites to the highest attainments within the surgeon's achievement. To be the supreme type of surgeon presupposes the aspirant to be a good type of medical man. The two are inseparable."

The general surgeon must have a comprehensive understanding knowledge of general medicine. But, after all has been said in regard to surgical technique, operative cunning, clever manipulation and unusual coordination of the special senses in directing the dexterous hand, there is one other last requisite that stands predominantly to the fore, and that is the ability to render a certainty and completeness of diagnosis with definite knowledge of all pathological processes which may be encountered. Here stands in a class alone, that "rara avis" so seldom found in medicine or surgery, the diagnostician.

The ability to operate correctly in a definitely known condition is simple as compared to the ability to correctly determine what is the condition and accurately appraise the presenting features. It is probably a fact that few general surgeons match their operative skill with diagnostic ability. It is probably also a fact that in many instances, the pre-operative diagnosis "exploratory laparotomy" still finds much favor with surgeons whose operative ability is unquestioned.

SURGICAL SPECIALIZATION

It is an accepted fact that no one mind is capable of mastering all of the many known facts in medicine or surgery, hence the "specialist."

The dividing up of the human body into its many component parts for special study and consideration. Some of these specialties are now being subdivided and the subdivisions redivided making it possible to find in the larger medical and surgical centers a specialist for anything. There seems to be in some of our

best minds a doubt as to whether or not specialization has been carried too far. An objectionable feature is the entrance into specialized fields of the recent graduate, who without the broadening influence of general service for a time, is necessarily limited in his knowledge and understanding of collateral branches that have an important bearing upon his specialty. It is undoubtedly a fact that the most efficient specialist of today is he who spent his apprenticeship at the forge of general service with its limitless diversity of experience.

Daniel Fiske James in his address before the American Surgical Association last year brought out quite accurately the harmful effect upon "1. the hospital; 2. the surgeon; 3. the undergraduate; 4. the house staff; 5. the graduate doctor; 6. the community; 7. the general surgical society." The point of his article is quite aptly contained in his statement "We believe that without a well rounded general service, it is impossible to develop men of broad clinical experience to teach students and internes who are to go out to do surgery in the community in which they settle."

The specialist, often unconsciously, develops a myopic vision in his consideration of his case and is inclined in many instances to doubt or ignore the existence of that which comes outside of his limited field. This has been termed "a sclerosing process which few can escape."

The pioneers in specialized surgery were first general surgeons who acquired a broad surgical training which made them safe and competent men to handle a specialty and properly deal with accompanying conditions of the body that play a part in and oftentimes are the causative factor in a specialized defect.

The general practitioner has had his ups and downs. There is and will always be a place for him.

The general surgeon has been restricted, but the specialization in surgery will be necessarily limited and there will always be that type of surgeon who "saved worthless old Bill Jones when his wife busted his skull with a meat hook," and when Stevie Powell fell off the picket fence; carefully removed the splinters and accurately approximated the lacerated wound in the rectal wall while Steve's city cousin was hunting thru the dictionary to find the meaning of the word—proctologist.

DISCUSSION

DR. W. W. CRAWFORD (Hattiesburg): I have a very definite impression that there is something in this sea air that lends enchantment to whatever one undertakes to say or do, and that if you want to get the proper sense of values you had better undertake to get your perspective somewhere down on the Gulf Coast. Dr. Carroll at my request sent me

a copy of his paper. I read it, then I read it again, and with all due deference to my friend, Carroll, I didn't think it was very much of a paper. Then when I came down here this morning and listened to the doctor with his wonderful ability to put over the thing to which he is committed, I was surprised to note how much meat there really was in that paper. I now realize that I must have had indigestion when I read it at home.

Briefly, when you analyze Dr. Carroll's paper, you must agree that it is a very good interpretation of the subject that he has undertaken to present and if I were to discuss this paper, I would find myself doing nothing more than trying to lend emphasis to the things that the doctor has already said to you, and said them well.

The question of general surgery and its scope is really a subject that is entitled to your consideration. We ought to, I think, in the beginning realize that the first essential to being able to properly evaluate internal medicine. I know surgeons with the viewpoint of the man who says: "Oh well, I don't know anything about medicine, I am a surgeon." Well, my reply is that the man who doesn't know anything about medicine is not a very good surgeon. He may be a very good technician. He may do his operations quite satisfactorily, but how often does he operate on a patient who doesn't need an operation. I think the older we grow in surgical experience, the more we observe the human body in its psychological as well as physiological relationships, the more conscious we become of the fact that the outstanding thing is to properly analyze your case to determine just what are the indications, if any, for surgery. It is not enough for me to say that because a man has a little pain in the region of his appendix or some trouble with his gall bladder, or any one of the organs of the body, that of necessity he should be taken to the operating room. The symptoms may express his minor problem; a problem that should scarcely be thought of at all in arriving at your final decision. I am not thinking about some acute appendix that has just ruptured or that should be rushed to the operating room. But, in its final analysis, most of the surgery that is done by the general surgeon represents chronic conditions like Dr. Hagaman has just talked to you about in his paper, people who have pain in various regions and of varying intensity; incidentally many an individual with pain in his side has his appendix removed with the idea of making cures that later experience shows was not necessary but due either to the fact that the patient had a stone in the kidney or some pelvic lesion that was entirely foreign to the appendix itself, or perchance the pain reflects a colonic or other toxemia. So, if I

were leaving you one message in connection with this paper, I should like to stress more and more the importance of making a careful analysis of the patients that we either do or do not operate upon. When we go into this matter thoroughly and conscientiously, it is astonishing how many of our surgical cases are orientated into the medical column and reflect an end result that augments the stock of happiness of both the physician and the patient. The doctor's paper was certainly worth your careful consideration.

DR. J. S. GATLIN (Laurel): The title of this paper is "The Scope of General Surgery." Now the doctor spoke about being called upon to be an emergency proctologist and fix up a lacerated rectum or an emergency urologist and repair a lacerated urethra that has been crushed due to some trauma. The man doing general accident surgery may be called upon to do that, but what I want to find out is if there is a general consensus of opinion that the throat specialists, the eye, ear, nose and throat specialists, should be crowded out by the general surgeon, just where the line ought to be drawn. In a town of 18 to 20 thousand where you have one or two good throat men, why, they are there to make their living. They don't do anything else. They don't do obstetrics, hemorrhoidectomies, appendectomies, they stay in their offices and wait for their patients to come along—sinuses and antrums, and unless they get the full support of the general surgeon and are allowed to do that type of work, like tonsillectomies and adenoidectomies, ear drum punctures, when they are needed for mastoid trouble they won't be there. It forces the patient who needs that kind of work to go to the larger centers where the specialist does get a square deal. Any surgeon who does an appendectomy can certainly snare out a pair of tonsils and get \$5.00 or \$15.00 for it, and stay in that particular family's practice. But what is it going to gain him to just gain that much? I say if you live in a town where you have an eye, ear, nose and throat specialist it is not fair or ethical to encroach on that specialist. When the patient says, "can you take out my tonsils," of course, you can, but it isn't fair to that man who has come to live in your midst and add that much to your medical equipment, to take away from him when he needs it to stay there, because sooner or later you will get into deep water and have to phone him to come down and help you, that the patient is about to bleed to death.

DR. CARROLL (closing): I want to impress the fact that I am not carrying a fight to the specialists. Those who have known me for the past thirty years will know there is no one quicker to avail himself of the services of a competent, I said competent, specialist than

I am. In the opening paragraph of my paper I mentioned that fact as one of the attributes of the general surgeon, that ability to determine you might say his limitations or at least at which point to refer his case to a competent specialist.

Now as to tonsillectomies, I agree with the doctor that that field has been grossly encroached upon by many surgeons. That has been explained to me; it has occurred to me in my own practice in families who insist upon the doctor who took out James' appendix, or did an ovariectomy on Mary, removing Tommy's tonsils. The doctor has admitted that it is not an extremely difficult operation but one which many surgeons are competent to do. In small towns, in the absence of a local specialist, it is almost impossible to escape this operation. I refer many of those cases to our specialists here. They have no fight with me in that respect.

I would like to call the doctor's attention to the fact that probably in the experience of many general surgeons, certainly some general surgeons have been called in to assist the specialists in controlling hemorrhage in tonsillectomy. This many of you may have in mind and may recall some experience in the early morning hours of being called in to tie an artery. That is all I wish to bring out in concluding.

I thank Dr. Crawford in particular. I was afraid his first impression of my paper would probably be misleading and that would not make the point I wanted to make. The doctor also discussed and brought out a very good point with which I agree. I simply wish to impress upon all of you that as time goes on, with the many and varied conditions that concern us, we are meeting with the type of surgery that requires the greatest preparation. Many years ago we were able to select our cases in a way that would confine them so that in making a resume of your year's work you could locate a certain class of work. That class has been greatly broadened. You will find now your case rate conditions extend from a fracture of the leg to a depressed fracture of the skull, just as the general practitioner has the condition of athlete's foot to treat. I thank you.

Closed Wounds of the Abdomen*

A. DABNEY HURT, M.D.
Corinth, Miss.

Closed abdominal wounds may for practical purposes be divided into (a) injuries of the

abdominal wall alone and, (b) injuries to the abdominal contents.

The direct cause is external force applied to the abdomen. Trauma of this type occurs most frequently in auto accidents, industrial injuries, blows from various sources, and crushing injuries of many kinds.

Wounds of the abdominal wall without visceral injury are of little import from the standpoint of mortality. They are important when associated with intra-abdominal injury, for in such instance, if the diagnosis is made of a wound of the abdominal wall alone, it usually means the difference between recovery and fatality. In doubtful cases, from the practical standpoint, it is safer to err on the side of intra-abdominal injury and do a needless laparotomy than to err in the other direction and find later that one should have been done.

When considering the presence or absence of intra-abdominal trauma the following factors should be weighed carefully: (1) the external force itself, whether it was received direct or at an angle; (2) the region involved, if in the right hypochondrium or lower costal region, the liver gall bladder and the colon are most apt to be injured; in the epigastrium, the stomach, colon or pancreas; in the left hypochondrium, the spleen, colon or stomach; in the umbilical region, the small gut; in the hypogastrium, the bladder and the small gut; and in the lumbar regions, the kidneys; (3) the condition of the organs, whether empty or full; as a hollow viscus is more susceptible to rupture if full or near full; and (4) associated lesions, for example, bladder lacerations in fractures of the pelvis.

Hemorrhage when present, and this is the case more frequently than otherwise, especially when the solid organs are involved, is the most easily detected and therefore the most reliable sign of intra-abdominal injury. As an example the following case report clearly illustrates this fact:

T. R., age 17, was admitted to the McRae Hospital at 12:10 p. m. Sept. 25, 1934 giving the following history. At 10 a. m. the patient, a saw mill worker, while trying to replace a belt on a pulley with the machinery in motion, received a direct blow in the right lower costal region just above the costal margin from the end of a plank about 5 feet long which caught between the belt and the pulley and was forced backwards striking him with enough force to knock him down. He complained of moderate pain in the right lower costal region and the right hypochondrium which was referred to his right shoulder. He was nauseated and vomited 2-3 times. Temp. 98, pulse 120 respirations 28 and shallow. Air hunger was definite and pallor marked. The right hypochondrium was rigid and markedly tender.

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Dullness was present in the right flank. The blood showed 4,070,000 R. B. C., 31,850 leucocytes, 82 per cent Hb and was Type 2 Moss. X-ray showed an area of marked increase in density in the right hypochondrium which was interpreted as evidence of hemorrhage. A diagnosis of rupture of the liver with hemorrhage was made and laparotomy advised.

Operation at 2:30 p. m. under ether anesthesia a right oblique paramedian incision was made. The abdomen contained about 500 cc. or more of blood with clots. The liver showed a complete laceration 4-5 inches long beginning immediately lateral to the umbilical notch and extending obliquely and postero-laterally, completely dividing the right lobe from its superior to its inferior surface. The surfaces were bleeding freely. Six interrupted through and through sutures were taken and left untied. An iodoform gauze pack was inserted and the sutures tied without tension. The blood was removed by suction and the incision closed with two Penrose drains inserted. A blood transfusion of 600 cc. of whole blood was then given. The patient's condition was so poor on the first postoperative day due to continued oozing from the wound, another transfusion of 500 cc. of whole blood was necessary. The convalescence was stormy with the drainage at first sanguinous, then sero-sanguinous, and later purulent. He was discharged on the 33rd day.

The general signs of hemorrhage: pallor, weak thready frequent pulse, "air hunger" and leucocytosis became progressively worse whereas initial shock tends to improve. The local signs of intra-abdominal hemorrhage which appear rapidly, especially when massive are: dullness in one or both flanks, shifting dullness, and later distention. As in the case just reported the X-ray film may show a well defined area of increased density which may also be of value. Hematuria or blood obtained on catheterization are pathognomonic of renal injury of rupture of the bladder. Laceration of the kidney with hemorrhage will show dullness and tenderness with rigidity in the loin not present in rupture of the bladder. The following case shows a typical picture of a ruptured bladder:

D. D., age 6, fell from the school bus while attempting to alight before it stopped completely, and was run over by the rear wheel at 4:30 p. m. on April 3, 1934. He was admitted to the McRae Hospital complaining of little if any pain. Pallor was considerable. Temp. 98, pulse 116, resp. 44. He was markedly nauseated and vomited 4-5 times. He was unable to void and said he had not urinated since the morning recess. On obtaining 150 cc. of bright red blood by catheter, the catheter was withdrawn. The mid-lower abdomen was moderately distended to the umbilicus. Both recti

were rigid and there was marked tenderness in the same area. Both kidneys were easily palpable with no evidence of tenderness, dullness, or muscular rigidity in the area. The perineum was negative. The leucocyte count was 17,900 and the blood was type 3 Moss. X-ray films revealed no evidence of fracture of the pelvis or spine, but did show an area of increased density extending to the umbilicus which was interpreted as evidence of blood in the peritoneal cavity. A diagnosis of intra-peritoneal rupture of the bladder with hemorrhage was made and laparotomy advised.

Operation at 9 p. m. a midline incision was made from below the umbilicus to the symphysis. The peritoneum was incised revealing a large quantity of mixed blood and urine which was removed by suction. A laceration was found at the postero-inferior aspect of the bladder which extended toward the urethral orifice. The peritoneum and bladder wall was closed at this point, the remaining extent being inaccessible. The accessible portion of the rent was about one and one-half inches. The peritoneum was closed with one Penrose drain being inserted. The bladder was then exposed extra-peritoneally and a suprapubic catheter fixed by a purse string suture.

A blood transfusion of 300 cc. of whole blood was then given. Hot boric irrigations through the suprapubic catheter were given every two hours. On the second postoperative day the condition of the patient was so poor due to continued hemorrhage a second transfusion of 450cc. of whole blood was given. Following this, recovery was uneventful; the suprapubic catheter being removed on the twelfth postoperative day, and the patient discharged on the sixteenth.

In the early diagnosis of perforation of the stomach, or any portion of the small or large gut the most reliable sign when present is a layer of air or gas between the diaphragm and the liver. This may be detected on physical examination by finding an obliteration of the normal liver dullness. The X-ray film, best taken in the vertical position, is more to be relied on in revealing this layer of air or gas especially when the amount is small, as is usually the case in early perforations or ruptures. Christopher reports an excellent example of this and because of the absence of serious symptoms, I am going to present it in toto as reported by him as follows:

"J. L., aged 15, at 5:30 p. m. on Oct. 5, 1933 attempted to block a pass receiver in a football game. The two boys collided and it is thought that the patient's abdomen came in contact with the pass receiver's knee or elbow. The injured boy did not fall to the ground but stopped playing saying "his wind was knocked out." Shortly afterward he walked a block to his home where his mother noticed

his extreme pallor. Soon after the patient vomited several times and had repeated attacks of hiccoughs. When first seen by the writer at 7:30 p. m. the boy was pale, complained of no particular pain and had a pulse of 140. Both recti abdominalis were tense, but there was no generalized rigidity and little tenderness. The leucocyte count was 29,550. The patient was admitted to the Evanston Hospital at 8:30 p. m., and taken to the X-ray room. As he moved easily and without apparent pain an X-ray film of the chest and abdomen was made with the patient in the standing position at the suggestion of Dr. James T. Case. This film very beautifully demonstrated a layer of air between the diaphragm and liver, proof of free air or gas in the peritoneal cavity and pathognomonic of the rupture of a hollow viscus.

Operation at 10:15 p. m. a long left paramedian incision was made. A large amount (500 to 700 cc.) of turbid green fluid was found free in the peritoneal cavity. This fluid was removed by the suction apparatus. Fibrinous exudate was soon found in a group of intestinal coils and closer search revealed a perforation near the mesenteric border of the jejunum about 45 cm. from the duodeno-jejunal fossa. This perforation was closed transversely to the bowel axis by first one row of linen sutures and then two rows of catgut. The entire large and small bowel save the splenic flexure of the colon were then inspected for other perforations but none was found. Two cigarette drains were placed deep in the pelvis and the abdominal wound was closed in layers. The boy's convalescence was astonishingly uneventful. For the first twenty-four hours there was profuse drainage which then subsided rapidly. One cigarette drain was removed on the first postoperative day and the other was gradually shortened until removal on the fifth day. The patient took fluids and food early, had practically no pain or distention and was discharged from the hospital on the twelfth day."

Other valuable diagnostic symptoms and signs of ruptures of this type when present are: persistent nausea and repeated vomiting, hiccoughs, marked pain, localized tenderness, rigidity especially when at first limited and then increasing, distention, and evidences of free fluid in the peritoneal cavity.

The treatment of these closed intra-abdominal wounds is strictly surgical. In those cases with evident hemorrhage, immediate operation to control the bleeding and blood transfusion is of course demanded. Cases with marked shock and little or no hemorrhage are best handled by first combating the shock with intravenous glucose and saline and then operating. DeTarnowsky² cautions against the use of cardiovascular stimulants to combat shock

before operation on the grounds that it may cause or increase hemorrhage. Those injuries with very little or no shock are best opened up as soon as possible. In the doubtful group after a period of six to eight hours or more of close observation and exploratory laparotomy will do less harm than a peritonitis, for it is at least much easier to treat.

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Common Proctological Conditions*

THOMAS WOLFORD, M.D.
Columbus, Miss.

There are few patients who come to their physician, whatever their immediate complaint, who do not have some form of rectal trouble, yet there are few patients who get the proper relief. I believe this due to two things (1) To the lack of proper understanding of the physiological function of this area and its anatomy and (2) To the lack of stress placed on the proper treatment of these conditions.

In my experience with rectal diseases, I find the average patient abhors the suggestion of treatment because of the large number of friends who have been treated and have either received no relief or they are in a more serious condition than before treatment.

In the past three years I have seen five patients who have had from four to eight operations for fistula, and they presented a much more serious condition following these operations. Without question, this was due to the improper knowledge on the part of the attending physician or the attitude on his part, that the condition was unpleasant and repulsive and therefore lightly considered in regards to treatment.

In the course of a general physical examination, how many times does the average physician do a rectal examination as a necessary part of the knowledge that he must obtain in order to relieve the patient. Frequently if such an examination is made an unsuspected condition will be found and the real cause of the patient's disorder will be discovered.

Several months ago I saw in my office an elderly man, complaining of loss of weight, indigestion, weakness and alternate diarrhea and constipation. In questioning him he admitted the usual history of hemorrhoids and frequent passage of blood. Yet in over six

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months of previous treatment no rectal examination had been made, the assumption being that his trouble was of gastric origin. In my examination a large mass was found about 10 c.m. inside his rectum, a typical carcinoma. What would have been the prognosis six months previously?

A thorough and competent examination must be made on each patient accurately to determine the condition present, its location and the degree of involvement. This not only includes inspection of the anal region and a digital examination but also an anoscopic and proctoscopic examination. This can be done with very little discomfort to the patient by first gaining the patient's confidence and by gentle manipulation of the examining instrument.

If we are to gain the proper concept of proctological conditions we must have at least a general idea of the anatomy of this region. In embryonic life the hind gut pushes downward to unite with the proctoderm which has pushed its way posteriorly. The joining together of these two unlike structures forms the pectinate line. Above this line the veins ultimately unite with the portal circulation and below it they join the vena cava. The nerves supplying the region above this line are derived entirely from the sympathetic nervous system and therefore the rectal mucosa has no sensory nerve supply. This is important because of the lack of sensation in lesions of the rectum and sigmoid. The nerves supplying the cutaneous margin are derived from the sacral plexus and have both motor and sensory function. The lymphatic and arterial systems of this area follows the course of the venous drainage.

Because of its location anal fissures are manifested by pain during and following elimination. Preceded by a varying degree of venous congestion, which allows the epithelial lining to become less resistant, it is an easy matter for any roughage passing over this area to produce a fissure. In the treatment of anal fissures the rectal outlet should never be divulsed. There is a tearing of skin and muscle fibers, with an extravasation of blood into the tissues, allowing infection an excellent culture media.

Rectal ulcers have a definite punched out appearance, characteristic of any indolent ulcer. Its mechanism of production and underlying cause is similar to a fissure, having reached a chronic stage of longer standing. It is just as necessary to remove the corresponding hemorrhoid as it is to obliterate the varicosities of the leg with a chronic varicose ulcer. Supposing our patient has the common complaint of hemorrhoids, severe enough for him to seek relief. I shall only consider his treatment from the surgical aspect. Sclerosing dilated rectal vessels to me is a very hazardous

and uncertain procedure and limited to a very restricted field. With the proper anesthesia the tree hemorrhoidal masses easily present themselves, the base of each ligated high on a different plane and the mass removed down to the sphincter muscle. Enough anal skin is removed to insure proper drainage. As we are dealing with a potentially infected field these areas are left denuded and will very quickly epithelize. Several strips of well lubricated rubber tissue are inserted into the rectum. Twenty-four hours later, all drains and dressings are removed, and the patient placed in hot bath every four hours. No attempt is made to "lock the patient's bowels." Mineral oil is given each night and an enema the second morning.

I firmly believe all fistulae begin in an infected crypt and burrow outward, either deep to or superficial to the sphincter. As this tract reaches the surface an abscess may be formed and rather than being a primary condition, the abscess in itself is when opened the completion of the fistulous tract. Although we relieve a patient's pain when the abscess is opened we do not offer him a complete cure unless the internal opening of the tract is found. This can be only accomplished by the gentle insertion of a soft silver probe along the course of the tract, being sure that the probe is not forced thru the bowel wall. The tract is completely excised, wide enough to prevent bridging over and allowed to heal from the bottom. If the tract is deep to the sphincter muscle a linen ceton is left in place around the muscle. In this manner the fibers of the muscle are embedded in scar tissue and may be cut thru later, without fear of incontinence. The corresponding hemorrhoidal mass is always removed.

Contrary to a general belief all fistulae are not tubercular, rather have their origin in an infected crypt. Dr. Cecil Gaston, to whom I am indebted for his three years of patient instruction to me on rectal diseases and on whose work my beliefs are based, states that over 90 per cent of fistulous cases yielded no pathological evidence of tuberculosis.

If we are to reduce the even increasing mortality rate of malignant conditions we must locate the lesion in its early stage. This can only be accomplished by ever keeping in mind the possibility of the condition being malignant and by determining the pathological character of the lesion by means of a biopsy. It is by far better to suspect a malignancy and to find it to be benign, than assume it is not and later regret the assumption. Because of its lack of sensory nerve supply, malignant lesions of the rectum do not manifest themselves subjectively until they have reached a rather hopeless stage. Therefore we must pay particular attention to the objective find-

ings. Any symptoms which show that the bowel is not acting normally is indicative that something is wrong. Bleeding may be construed to indicate hemorrhoids, diarrhea a parasitic infection, while the frequent passage of small bloody stools assumed to be due to a simple diarrhea, yet upon proctoscopic examination an indurated, bleeding, friable, ulcerated, cauliflower growth may be found, typical of carcinoma.

The choice of the proper operative technic does not in itself offer a complete cure for the proctological patient. In order to carry out the selected operation, we must have the most satisfactory anesthesia. A general anesthetic is never used, as it is impossible to sufficiently relax the sphincter with gas or ether and not endanger the life of the patient. By local blocking of the nerves to the rectum there is perfect relaxation and conditions that could not otherwise be found are easily located, bleeding controlled and the entire operation performed more easily. Either a combined caudal and sacral or subarachnoid block is the anesthetic of choice and after viewing a rectal operation under these ideal conditions one realizes the important part it plays.

Undoubtedly more can be done by properly caring for the rectum after operation than by the choice of the proper operative procedure. A skillfully performed operation may result disastrously because of inadequate attention, while one performed less skillful may terminate satisfactorily with the proper post-operative care. With the return of motor function to the area there is a contraction of the muscle, bringing the raw edges together. If no attempt is made to break up these adhesions a narrowing of the canal will result. By the gentle insertion of the gloved finger into the rectum each day the raw surfaces quickly epithelize and the normal contour preserved. The post operative care must be continued until the area is completely healed.

A General Consideration of Mental Disease

DICK CAUTHEN McCOOL, M.D.
Memphis, Tenn.

The ensuing discussion was suggested by repeated insistence of several colleagues that a general discussion of mental disease explaining the scope, etiology, mechanism, treatment, and prognosis of the same would prove of interest to the medical profession in general. It is sincerely hoped that those who are not frightened away by the title will derive some useful information from the following remarks.

To attempt more than a brief sketch of this subject would entail too much time and would

produce too unwieldy an article; consequently, details must be avoided for purpose of time, unity, and clarity.

The term "mental disease" is strictly and properly applicable to any disturbance of mental or psychic function. This embraces all entities from acute alcoholic intoxication, which is a transient but nevertheless toxic or anesthetic paralysis of certain of the higher cerebral functions to the chronic, hopeless stages of dementia precox. And this includes the so-called "nervous breakdown," which is the layman's term for an extreme physiologic fatigue of the entire central nervous system, of which the mind is a part. In other words mental disease may be fleeting and free from permanent sequelae or it may be permanent and always attended by sequelae. Disease implies "an interruption of physiologic function," as stated in Dorland's Dictionary.

The etiology is considered under the headings of frequency, predisposing factors, exciting cause, and theoretical cause. No race of people is immune to mental disease; sex incidence is about equal under given circumstances; climate plays no fundamental role—the disease is pandemic. General estimates give three percent as the incidence of the disease in the United States. It may be even greater, for this figure refers only to those cases that will sooner or later require institutional treatment. Age is not necessarily a predisposing factor but the majority of mental diseases develop between the ages of fifteen and thirty-five. Although heredity is disputed as a factor by some authorities because of its failure to follow out the Mendelian law, yet in the writer's opinion it plays a definite role by fostering an unstable personality which cannot make the necessary adjustments that life demands. Just as heredity is a predisposing factor so is environment. This includes especially the matter of improper discipline and training in childhood. A stable personality may be badly damaged by misguided or unguided youth, thereby laying a fertile foundation for a mental aberration later on.

It is difficult to consider the actual causes of mental diseases separately in a short space of time hence the grouping under the headings organic and functional (so-called). In the first group are such factors as a trauma, tumor, inflammatory disease, hemorrhage, arteriosclerosis in the brain, or systemic diseases elsewhere in the body which produce toxic substances. In the second group are the theoretical causes which are as numerous as they are uncertain. In fact it has never been established that there is such a thing as a functional disease of the mind—that is, one free from structural or chemical change. They are "functional" in the sense that they exist without known cause. Other synonyms are

primary, essential, and idiopathic. Organic pathology may produce mental diseases per se or it may act merely as a precipitating factor in a so-called functional disease. Of all the theoretical causes of functional diseases of the mind perhaps the most promising theory is the one which indicts the endocrine system either as the actual cause or as an associated locus of pathology. Apparently there is some close relation between endocrinopathy and psychopathology. Especially does one see evidence of this fact in females, who are prone to develop beards and coarse features, and in males, who so often exhibit changes in the texture of the hair which grows very coarse and stiff so that it appears uncombed all the time. Likewise basal metabolic readings are often abnormal—either plus or minus. In the dementia precox group especially it is very common to find menstrual irregularities. That the thyroid and pituitary and adrenal glands play an important role in dementia precox is difficult to exclude.

To explain the mechanism of mental diseases it is necessary to make certain axiomatic statements in this regard. First of all, mental disease may attack either the intellectual field, the emotional field, or both. It is the tendency to regard mental disturbances as an affection of the intellect chiefly. The remark is often heard made that "such and such a patient is crazy but can recognize people, read papers, and even calculate well." Such a patient is affected not in the intellectual sphere but in the emotional sphere. Both spheres if altered result in personality changes. For practical considerations the personality may be defined as "the reaction of an individual to his environment plus the reaction of the environment to the individual." Naturally all such reactions are the result of intellect and emotional content. Therefore, any pathological disturbance of either intellect or emotional content produces a personality change. To reiterate, a dementia may be intellectual or emotional or both. Intellectual dementias are usually if not always the result of organic brain disease, such as tumors, injuries, inflammatory diseases of the brain tissue, cerebral arteriosclerosis, cerebral hemorrhage, etc. There is apparently one exception to this rule and that is idiopathic epilepsy; it produces a definite dementia of the intellectual type yet it exhibits no definite specific anatomical pathology. Emotional dementias are illustrated by dementia precox, manic depressive psychosis, involutional melancholia, paranoid states, and idiopathic epilepsy. And with the exception of the last named group none of these diseases produces intellectual dementia in the ordinary sense of the word.

The third group, the psychoneuroses, does not conform strictly to either the intellectual

or the emotional dementia and for this reason must be classed alone rather than as a true psychotic reaction. This group includes the following types: anxiety, hysterical, neurasthenic, psychasthenic, and combinations of all four. Phobias, obsessions, compulsions, etc., are all psychoneurotic manifestations. It must be stated that there are cases of psychoneurosis which are so closely allied to psychoses that no definite distinction can be made between them.

Two other conditions may be mentioned at this time. They are psychopathic personality and mental deficiency. The former is of two types; namely, congenital and environmental. Mental deficiency is always congenital. Either of these groups may or may not be psychotic. If they are psychotic they are termed psychopathic personality with psychosis, and mental deficiency with psychosis. Otherwise they merely represent developmental anomalies as to personality and mentality, respectively. The symptomatology of these conditions will be omitted.

This brings us to a consideration of the mechanism of production of mental diseases as generally accepted by neuropsychiatrists today. It must be assumed that each individual is endowed at birth with a certain personality. In turn this personality is capable of certain limits of adjustment to situations which arise in the life of the individual, and the latitude of adjustment varies in each person so that a given situation may provoke a different response in any number of individuals. In speaking of adjustment we are concerned essentially with the emotional sphere. As long as these limitations are not exceeded mental health exists, but the moment the boundaries of adjustment are exceeded mental disease occurs. This personality change expresses itself as a psychosis which may be defined as a definite and sudden departure from an individual's usual way of thinking, feeling, or acting. Such a definition falls far short of being fully explanatory, but for practical purposes it serves well. In certain instances the limits of emotional adjustment may be temporarily exceeded so suddenly that amnesia occurs for a short interval. This is illustrated by the common occurrence of an automobile accident in which instance each individual will likely give an entirely different version of the accident. This may be thought of as a "reversible reaction" in the sense that it is transitory rather than permanent, but nevertheless it constitutes a definite disturbance of mental function. On the other hand, the psychosis is characterized by definite changes in the individual's personality, which changes may or may not be permanent, depending upon whether or not the underlying cause can be found and removed. To illustrate, a toxic psychosis such as acute

alcoholic hallucinosis produces a personality change only so long as alcohol remains in the brain cells. In this instance abstinence from alcohol results in a restoration of the former personality. As an example of the opposite reaction dementia precox is cited. This condition produces what is generally considered to be a permanent personality change.

The above mechanism is the same in both organic and functional diseases, but in one instance the cause is known and in the other it is unknown.

The psychoneurosis reaction has a mechanism which is diametrically opposite to that of psychosis. In a psychoneurosis the facts are actually present, but the reaction to these facts is wholly inadequate, whereas in a psychosis the facts are delusional, but the reaction to them is entirely adequate. A woman whose child was punished in school by being struck in the palm of the hand with a ruler became so enraged at the fact that she developed a paralysis agitans of the corresponding extremity. This is a rather typical illustration of an hysterical psychoneurosis; the child was actually struck on the hand, but the reaction on the part of the mother to this fact was very inadequate. A dementia precox has the delusion that he is a member of the president's cabinet and therefore begins to write to the president advising him upon such matters as he deems expedient. In this instance his premise is a delusion, but surely he is performing his duty as a cabinet member; this is an entirely adequate reaction.

Symptomatology will be deleted in this discussion due to the enormity of manifestations of these various diseases. One is referred to standard tests on psychiatry for this particular aspect. In view of this the next consideration will be that of treatment. In the present day treatment he based upon the proper diagnosis, but this rule can scarcely be applied to mental diseases for the reason that in a vast majority of instances no positive proof of a diagnosis can be made. Therefore the most important point is to understand the mechanism of the individual case; of less importance is the name which is attached thereto. This may be likened to a non-specific fever. The cause may not be known, but treatment can be successfully instituted. The treatment of mental disease resolves itself into the following groups: First, complete rest, both mental and physical examination with a correction of all pathology found. Active therapeutic measures are physical therapy, occupational therapy, and psychotherapy, the latter being valuable only in selected cases. It may sound radical to state that sedative drugs have little efficiency in the treatment of mental diseases. Sedation is obtained by means of physical therapy, chiefly hydrotherapy. It

is of course, understood that specific infectious diseases are treated in the accepted manner; for example, psychoses due to syphilis, pellagra, etc. One of the most important aspects of treatment is the personal equation. This means that unlimited patience and sympathetic understanding are absolutely essential on the part of physicians, nurses, attendants, and all others with whom mental patients come in contact.

The prognosis in mental diseases as a group is not encouraging at the present time. Generous estimates give fifteen percent as the number of patients who will be returned from institutions to society capable of adjustment under supervision. In a general way, the prognosis is dependent upon a careful study and consideration of each individual case. This is necessary because of the extreme difference in personalities with which the psychiatrist must deal.

In conclusion it may be said that mental disease is first of all a definite entity and not merely an affliction wrought by displeasure of the gods. Secondly, it is an entity which requires wide experience and genuine sympathetic understanding before a diagnosis can be made, before treatment can be instituted, and before a prognosis can be given. It is the family physician who first sees the beginning of mental diseases, and it is his responsibility to see that such patients are properly studied at the earliest opportunity. It is hoped that this statement will fall upon fertile soil for the successful treatment of mental diseases is like that of cancer: it lies in the prevention, early recognition, and institution of appropriate treatment.

Continuous Suction as a Means of Surgical and Functional Drainage*

G. A. HENDON, M.D.
Louisville, Ky.

Within the last year I have succeeded in constructing an apparatus that has so far fulfilled all the requirements of mechanical drainage for surgical conditions. The apparatus is very simple and very practical both in design and application. It is very easy to operate and possesses the faculty of automatic control. An illustration accompanys this article to supplement the graphic description. A supporting stand six and one-half feet high constructed similar to those that are used to suspend bird cages. This model is selected because of the increased difficulty of upsetting it and because

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it is light and easy to move about. A bracket is made of one-sixteenth inch wire of dimensions that will support a gallon glass jug. The jug is fitted with a Wolf stopper perforated with two holes. Through one is passed a glass tube reaching within one inch of the top of the jug. Through the other is inserted a short glass tube reaching one half an inch beyond the stopper. To this short tube is attached the rubber escape tube leading to a glass gallon jug on the floor. Into this tube is inserted a Murphy dripper that has no vent hole in it and above the dripper it is equipped with a pinch gadget to regulate and control the escape of fluid. To the longer glass tube is attached another rubber tube that leads to a quart size bottle that sits on the floor. This bottle is also equipped with a Wolf stopper containing two holes through each of which is inserted a bent glass tube, one about an inch longer than the other, to one of these tubes (the longer) the rubber leading from the long glass tube in the over hanging jug is attached. To the other bent tube is attached a rubber leading to the cavity which is the object of evacuation. The bracket is equipped with a chain so that the weight of the jug on the stopper will prevent slipping. When the water begins to escape from the over hanging jug a vacuum is created in the top which is communicated to the quart bottle below and that in turn acts through its tubular equipment upon the area of drainage and pulls the contents into the quart bottle. The power so far developed in our instrument is sufficient to lift a column of mercury 6.5 cm. This so far has appeared adequate to our requirements. The instrument could, however, be designed to supply almost any force desired by increasing its size and height. We began its use as a means of continuous evacuation of the stomach in case of puerperal sepsis.

The connection was made by means of a Levin tube passed into the stomach through the nose. The woman finally succumbed to septicaemia but the stomach drainage was sustained without interruption for one week and afforded great comfort by completely relieving nausea and completely resting the stomach by keeping it empty all the time. We have since used it routinely in all of our cases of excessive vomiting from whatever cause with the most complete satisfaction. If lavage is desired it may be instantly accomplished by the simple procedure of having the patient drink several glasses of water in rapid succession. The water thus swallowed is withdrawn with almost equal rapidity, thereby, constituting a current that removes morbid secretion and other debris and renders the stomach thoroughly cleansed. An important thought to keep in mind while using this instrument

in the stomach is that if it is used over a long period venoclysis should be added contemporaneously to keep the body supplied with mineral salts, fluid and nutrition.

GALL BLADDER. The instrument serves a highly useful purpose in both non-operative and post-operative drainage of the gall bladder. We have been impressed with the improvement in the convalescence of the operated cases where this means was employed. In cholecystostomy a tube is secured inside the gall bladder in the usual way and the mechanical drain is connected and allowed to function until the gall bladder tube is removed. In that way all the purposes of drainage are promoted and the gall bladder is kept empty at all times and there is ample reason to believe that the suction effect is transmitted throughout the entire biliary system even to the remotest radicles in the liver. Tubes placed for drainage of the common duct are treated the same way.

For cholecystectomy we have devised a plan that has seemed to provide special advantages. The stump of the cystic duct is made as long as possible which is a wise provision against involving the common duct. The tie made with chromic cat gut, the ends which are left about six inches long, one of which is threaded on a long straight Keith needle. A three-eighths rubber tube is prepared by cutting a fish tail at one end, the long straight is passed into the lumen of the tube as far as possible and made to pierce the tube at one side carrying the suture through the side of the tube. The suture is then grasped used as a guide upon which the tube can be held steady and the fish tail extremely made to fit astride the stump of the duct accurately and sutured in this position with chromic cat gut. The advantages of this manouever are quite obvious. If leakage occurs, and it usually does, it will be in the lumen of the tube. The mechanical drain can be readily connected to the drainage tube and removes any discharges that may be excreted as well as drawing upon the liver radicles. The plan here advocated possesses the ingredient of sustained continuity of effort which in my opinion is an essential element to the maximum of success of my therapeutic enterprise.

THE ALIMENTARY CANAL. The small intestine is capable of very efficient decompression, deflation and drainage by the aid of my apparatus through an enterostomy as described in the work of Rankin Barger and Buie (The Colon, Rectum and Anus, Page 723). The enterostomy, if competent to serve its purpose, must be performed as part of the original operative program and not as a subsequent incident. The machine may be used to evacuate the intestinal contents or its order may be reversed and made to act as a source and

means of supplying fluid and nutrition. In dealing with desperate conditions in the abdomen we have the internal hot water bag which is of great service. This may be accomplished by passing the catheter through the appendix after the meso appendix has been cut and tied and filling the colon with water at 120 degrees F. Clamp the catheter to retain the fluid and proceed with the operation in view. The warm water in the colon will compensate for the heat loss that is inevitable while the abdomen is open as well as replace the fluid loss by perspiration during and immediately succeeding the operation. The machine can be used either to evacuate the bowel or to add more fluid as conditions may indicate. At the end of six days the appendix sloughs off and the investing tube may be removed or retained as may seem indicated. In operating for a perforated appendix, my plan is to sever the appendix between the perforation and its cecal attachment, dilate the proximal stump to introduce into the cecum a Pezzar catheter threaded on a Stylett. Around the stem of the catheter the bowel is brought up by the introduction of three purse string sutures. The catheter is then drawn through a layer of omentum draped over the cecum. After the wound is closed over, appropriate provision is made for drainage of the peritoneum, the apparatus is connected to the distal end of the catheter and may either evacuate or refill the colon as many appear most desirable. A tube may be placed in the rectum to serve as a spillway for superfluous fluids. When convalescence is established the catheter is cut close to the abdominal wall and the proximal end allowed to fall in the bowel and pass through.

THE VESICO RENAL SYSTEM. If it becomes necessary to drain the urinary bladder through the urethra a retention catheter is introduced and connected with the apparatus. By that means the bladder may be kept entirely empty and relieved of its function. This has proven in our hands a more efficacious way to prepare for a subsequent prostatectomy than performing a supra pubicystostomy. I have had two cases in which there occurred a very appreciable diminution in the size of the prostate and the operation has been indefinitely postponed. After prostatectomy it has worked more satisfactorily than any other plan I knew in securing bladder drainage. It was in this connection that we met with our most startling revelations, to illustrate which I will submit the following case histories.

Case 1. J. M., age 81. Operation for strangulated hernia. Treated in St. Anthony Hospital. 9:00 p. m. March 7, 1935. First twenty-four hours after operation and before NP was attached his intake of fluid by mouth

was	1840cc.
His output of urine was	730cc.
	1110Neg. Diff.
The first 24 hours after NP was attached the output was	2100cc.
The first 24 hours after NP was attached the intake was	1700cc.
	400Pos. Diff.
Second 24 hours NP out of repair part time. Intake was	2200cc.
Second 24 hours output was	1540cc.
	660Neg. Diff.
Total intake four days. NP working	8150cc.
Total intake four days. NP working	8150cc.
Total output four days.	8100cc.
	50cc. Lost
Total intake four days. NP disconnected	2343cc.
Total output four days. NP disconnected	1450cc.
	893cc.
March 8th, the day after operation N P N 130. Urea Blood 73.5. Creatin 2.9.	
March 14th, six days after operation N P N 63. Blood Urea 30. Creatin 1.9.	
Case 2. Mrs. M., age 60, high blood pressure. Feb. 19th to March 5th, 1935. Referred by Dr. Fred Speidel. Treated in Baptist Hospital.	
Total intake fourteen days	30250cc.
Total output fourteen days	25850cc.
	4400cc. Diff.

NP attached by Pezzar catheter in bladder. Average differential per day for 14 days, 314.

This patient had been confined to bed for nearly six months on account of high blood pressure ranging from 230 to 240 together with headache, dizziness and nausea. Her blood pressure at this time ranges from 190 to 200 and she is able to be up and around, feels quite comfortable and expresses herself as well pleased with the results. October 20, 1935, eight months after treatment her blood chemistry did not show any marked change. It was within normal limits to start with. I am indebted to Dr. Speidel for his helpful cooperation in this case and for his observations made since the NP treatment.

Case 3. Mrs. D. St. Anthony. March 2, 1935. B. P. 190/150. Patient gave history having previously passed a number of small renal calculi. She complained of excruciating pain over left ureter. Urine contained blood and pus. For economic reasons she would not permit an X-ray to be made. The NP was attached by Pezzar catheter in bladder and treatment con-

tinued four days.

The total intake was 10030cc.

The total output was 9605cc.

425cc.

Average difference per day 1064.

At the end of the fourth day her symptoms were all relieved. She returned home and has had no trouble since. No calculus was demonstrated in the Urine at any time but in view of her previous history and the prevailing symptoms it is only fair to presume that a small stone could have been passed and escaped notice.

Case 4. H. S. Age 68. St. Anthony Hospital. January, 1935. Urinary retention due to large prostate. NP attached to catheter in bladder through the urethra.

Total intake in nine days 26940cc.

Total output in nine days 24780cc.

Total difference in nine days 2160cc.

Difference per day 240 cc. is $\frac{1}{4}$ the usual proportion. Ordinarily 1-3 of the fluids taken in by the mouth is used up in the processes of metabolism or eliminated through the skin and lungs. For instance a person drinking 1500cc. of fluid per day will eliminate 1000cc. of urine. The startling feature in this case was that he came in with a blood chemistry that foreboded immediate dissolution. He was comatose. NPN 300. Blood urea 166. Creatin 6.8. In six days these valences had returned to normal limits and in ten he had a super pubic prostatectomy followed by a prompt convalescence.

Case 5. Mr. A. L. Age 76. Baptist Hospital. Large prostate. His average intake per day for seven days before the NP was attached was 2620cc. His average urinary output daily for the same period was 1106 giving a daily differential of 1514cc. His average daily intake for a period of five days after the NP was attached was 2692cc. and the average daily output was 1831cc. giving a differential of 861cc., a little more than half of what it was before the NP was attached.

Case 6. Mrs. M. Age 40. Cardio renal edema. Admitted to St. Anthony's Hospital April 16, 1935, in the service of Dr. Roland McCormack. On April 17, her intake was 450cc. Output 180cc. The NP was attached and both intake and output was for the same period 12400 giving a differential of 2880 of output over intake or an average of 720cc. per day. Her edema was all gone at the end of the third day. The NP was detached and a five day record was kept and showed a total of output for the period of five days of 17300 and intake of 12822. A total difference of 4478 which was a daily average of 895 output in excess over intake. It is impossible to tell how long this continued because for economic reasons she

left the hospital and accurate observations could no longer be recorded. But we do know that she returned to her normal weight after losing 40 pounds, and is now capable of taking care of her business which is that of a boarding housekeeper.

No effort has been made to present the cases in this report in detail because the time and opportunity do not seem propitious. I hope in the future to write a paper entirely devoted to this phase of the subject. In the meantime I am carefully keeping records and accumulating experience. I have not had the opportunity of using the plan in draining the chest but I am sure it would prove efficient.

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Malaria Control*

I. I. POGUE, M.D.

Scott, Miss.

The problem of malaria control has been one of paramount importance since pre-historic days. Long before the specific cause and the exact mode of transmission of malaria were determined, the medical profession grappled in the dark for some prophylactic means whereby it might be controlled. Almost four hundred years B. C., Hippocrates gave a most excellent description and classification of malaria. Although much credit is due many of the pioneer workers for their noble efforts and the contribution they made toward malaria control, yet it remained for Laveran to determine the specific cause of malaria by his discovery of the malaria parasite in 1880, which marks the first important epoch in the history of our knowledge of malaria control.

The discovery by Ross in 1898, that the mosquito was the disseminating agent in the transmission of malaria marks the second, and perhaps the most important epoch in the the problem of malaria control. So, with the specific cause determined and the mode of transmission known, together with our knowledge of the specific effect of quinine and other drugs on the malaria parasite, we have all the data that is required to make malaria a preventable disease.

A successful malaria control is dependent upon four prerequisites which, when taken together, constitute nothing more nor less than a public educational program:

1. A complete knowledge of the cause of malaria—The fact must be firmly impressed upon the public that malaria is an infection caused

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by a specific parasite that enters the blood stream. And such erroneous ideas as malaria being caused from drinking pump water, the eating of muscadines, cantaloupe and water-melons must be eliminated before a malaria control campaign can be successfully culminated. For the malaria parasite is found in only one other place outside of the human body and that is in the body of the malaria transmitting mosquito.

2. A thorough understanding as to the mode of transmission—This is the master key that unlocks the problem of malaria control. The knowledge that the mosquito is the sole transmitting agent of malaria explains the influence that season, temperature and rainfall wield upon the prevalence of the disease. Only the species of anopheles mosquitoes, of which there are about forty-four types, have been proven to be malaria carriers. Man is intermediate host and the mosquito is the definitive host of the malaria parasite. It must also be known that mosquitoes do not cause malaria within themselves but they merely transmit the malaria parasite from the infected to the healthy persons. There is only one way that malaria can be transmitted other than by the mosquito and that is by the direct inoculation of the blood from an infected individual to another person and this method is of no importance from the standpoint of malaria control.

3. A realization of the gravity of the disease—Upon this fact depends the success or failure of the problem of malaria control because it provides the necessary incentive to insure sufficient interest and enthusiasm for the successful enforcement of the control measures employed. The importance of malaria control is in direct proportion to the prevalence of the disease. The records of the Bureau of Vital Statistics of Mississippi show that, in order of frequency, malaria heads the list of all the diseases with which we have to contend. With this knowledge before us, together with the fact that the same records show that, as to fatality, malaria ranks seventh in the list of the causes of deaths in Mississippi, there should remain no doubt as to the justification of our exerting every known means at our command leading towards the complete eradication of malaria in Mississippi. Furthermore, if the loss of time from work; the money spent for malaria treatment; the suffering endured and the increased susceptibility to other diseases as a result of malaria infection could be measured in terms of dollars for one year, I am sure the result would be so convincing that malaria control would be considered an economical proposition and that the end would justify the means irrespective of the cost.

4. The cooperation of all concerned in the

endeavor—At no time and under no circumstances is the hearty cooperation of each and every individual more essential than in a malaria control campaign, for in a malaria infected district every individual is susceptible to malaria, regardless of age, sex or color and each individual, therefore, is an important link in every phase of a malaria control campaign. Under the most convincing circumstances, there are those who are always antagonistic to any public move and if the cooperation of this class of individuals is ever obtained, it will come through the channel of education and persuasion. But, with the known means of malaria control at our command, there is no reason why malaria could not be completely eradicated from any community, regardless of the prevalence of the disease if only the full cooperation of every individual could be obtained.

There are only two methods by which malaria control can be accomplished.

1. By prophylactic measures against the parasite transmitting mosquito—The mosquito control measures are limited almost entirely to the prevention of the development of the larvae. Draining, filling and oiling are the most common methods employed in this connection and the selection of the method to be used must be determined by the local conditions existing at the time and place the preventive measures are employed.

There are certain distinguishing characteristics common to the anopheles mosquito that differentiates it from all other species of mosquitoes and are of interest in connection with the subject of malaria control. For all practical purposes, the anopheles mosquito can be identified by the position it assumes when resting on the wall. The proboscis, head, thorax and abdomen are in the same line and from almost a right angle to the surface upon which it rests. All the other species of mosquitoes rest flat on the surface of the wall. The larvae of the anopheles mosquito may also be recognized by their resting position in the water. They assume a parallel position to the surface of the water while the larvae of all other species of mosquitoes assume a position at an angle to the surface of the water.

2. By prophylactic measures against the parasite in man—Since we have a reliable method of determining the presence of the malaria parasite in man and since we have at least one, and perhaps two, specific drugs against the parasite, it appears that the prophylactic measures directed towards the eradication of the parasite in man afford the greatest opportunity of malaria control.

Screening is certainly an important means in an anti-malaria campaign for it acts in a twofold manner as a malaria control measure. First, it protects the non-infected individual

from the infected mosquito and second, it protects the non-infected mosquito from the infected individual. However, screening has its limitations as well as its virtues and therefore, cannot be adopted as the sole anti-malaria measure employed in a malaria control campaign. It is impossible for an individual, whether infected or non-infected, to be protected from exposure to mosquitoes, at all times, by means of screens, mosquito bars or any other protective measures that might be selected and employed.

SUMMARY—The prevalence and gravity of malaria are of sufficient importance to justify the employment of every known means of malaria control at our command that would tend to lead towards the complete eradication of this dreaded disease. The prevention and destruction of the breeding places of mosquitoes by means of draining, oiling, clearing and other sanitary measures; the use of screens and bars to protect the individual from mosquitoes and the complete sterilization of the blood of the infected individual by means of specific and persistent treatment, are the most practical and applicable measures, at our command today, in a malaria control campaign. If a routine and systematic blood examination of every individual in the malaria infected area could be done at regular intervals, for the detection of the infected individual, followed by a complete sterilization of the blood of all the infected cases by means of the specific drugs at our command today, malaria would be completely eradicated in a period of time that would not exceed one year, and the malaria transmitting mosquito would then be repected as harmless as the other species of mosquitoes.

Some Problems in the Care and Feeding of the Infant*

IRA B. SEALE, M.D.
Holly Springs, Miss.

This subject was not chosen because I felt that I could give you anything new or original, but with the hope that I might emphasize some important fundamentals which might be helpful.

In spite of the fact that all doctors who do any general practice necessarily have to treat babies, most of us are prone to neglect this branch of our practice. However, most all homes have babies and nothing upsets a home more than a sick baby. This is the doctor's opportunity to endear himself to the entire family if he's taken the pains to inform himself as to how to care for and feed a sick baby.

We are impressed more and more as time goes on that more sick babies have been starved to death than have been killed by feeding.

There are some fundamentals about babies that every doctor should know. How many times are we approached by such questions as:

How much should my baby weigh?

How much milk should my baby have in 24 hours?

How much gain should my baby make per week?

How many teeth should my baby have?

Without taxing our memory too much, there are a few things we can keep in our minds which will enable us to answer these questions without having to wait till we look it up. Nowadays there are so many mothers who study these pamphlets put out by the government that it behooves the wise doctor to keep a few of these fundamentals in his mind. Every doctor should know that at birth, the average weight of a baby is 7 pounds; that the normal baby doubles its weight between 5 and 6 months of age; that his weight should triple at 1 year of age; that a satisfactory gain is 4 ounces per week (minimum), or 16 ounces per month; that he should have 2 teeth at 6 months, 6 teeth at 12 months, 12 teeth at 16 months, 16 teeth at 20 months and 20 teeth, his first set, at 24 months; that a normal baby requires $1\frac{1}{2}$ to 2 ounces of milk at each pound of body weight in 24 hours; that the stomach capacity is 2 ounces at birth and increases 1 ounce per month.

With these fundamental facts committed to memory, we are always ready to give the mother helpful and reliable information right off the bat.

For example, given a baby 4 months old, we know he should weigh 11 or 12 pounds: We know he should have 18 to 24 ounces of milk in 24 hours: We know he should have 6 ounces at each feeding, and 5 feedings in 24 hours.

As to what our choice of food will be is the next question. All formulae are based on cow's milk as a standard, and cow's milk is the choice where conditions are favorable for securing a milk free from contamination. Where there is the slightest doubt about the proper handling of the milk my preference is a good grade of evaporated milk. It has these advantages: First, its availability (it can be bought in most every cross-roads store); second, its freedom from bacteria; and third, its ease of digestion.

In using evaporated milk we must bear in mind that it is a concentrate—one ounce is equivalent to 2 ounces of whole cow's milk. We are endeavoring in all milk formulae to produce a milk as near like the breast milk as possible so we have to add sugar in some form.

The malt sugars are usually the preparations of choice. I believe most pediatricians

*Read before the North Mississippi Medical Society.

are partial to dextrimaltose put out by Meade & Johnson. The No. 3 is most laxative; the No. 2 has salt; and No. 1 has no salt. They have recently put out a new one rich in Vitamin B, which ought to be a boon in feeding the baby with a poor appetite. In a delicate baby, however, according to Bloom, of New Orleans, dextrimaltose is hardest to digest, and we frequently have to resort to some other form of sugar.

The work of Marriott of St. Louis with his formula of exaporated milk, water and Karo corn syrup has done more to simplify infant feeding for me than anything I have ever found in literature. I know every baby is a law unto himself and there are no set rules to fit them all, but I do believe I have been successful with 9 out of 10 babies I have undertaken to feed by this plan.

Suppose we have a baby a few weeks old which for some reason has to be taken off the breast. We'll say his weight is nine pounds, going back to our fundamentals, using 2 ounces to each pound of body weight, we will take 8 ounces evaporated milk, then feeding every 3 hours, his 24 hour supply will be 18 ounces. So we will use a formula something like this.

Evaporated milk	8 ounces
Water	10 ounces
Karo (red)	1 ounce

The red Karo syrup is used because it is the purest form of glucose. With a baby in the country where ice can't be had it is well to make one feeding at a time. The water and Karo for the 24 hour supply can be mixed and added to the necessary quantity of milk for each feeding.

Having placed our baby on a formula, we have just begun. There should be follow up work for several weeks at least. We will want to know if he seems satisfied; if he frets or gnaws his fists before the next bottle it due; if he spits up his food; if he sleeps well, etc.

One of the most important things is a study of the stools, as to number, as to consistency; as to color; as to odor; as to curds. A normal thriving baby may have 2 or 3 stools daily but more than that requires correction when possible. Liquid stools mean trouble and will be followed by more. Normal stools are slightly acid in reaction but in a diarrhoea with scalding of buttocks there is hyperacidity due to carbohydrates, or less often to fats, never to proteins. Too much proteins will give an alkalinity to the stools.

Brown movements suggest malt sugar. Gray movements indicate a high protein and low fat. A green movement is abnormal as a rule. A gray-green stool suggest protein. Light green indicates carbohydrates and fats.

When a baby's bowels are upset the odor of the stool is helpful. The odor from carbohydrates is least offensive, protein the most

offensive, and fats in between.

Much valuable help may be obtained from a study of curds in the stools. Too much fats cause small soft curds which are easily broken up; curds from proteins are larger, tougher and hard to break up. If there is doubt about the nature of the curds ether will dissolve the fat curds but will not affect the protein curds.

So far in this paper I have endeavored to simplify, as best I could, infant feeding, and I have had very little to say about the sick baby. If our babies are fed properly, we will not have so many sick ones. However, no matter how careful we are, we are going to have infant diarrhoeas to deal with, but even then, our sheet anchor is diet.

We read voluminous articles by noted pediatricians in our literature, giving a dozen classification of infant diarrhoeas, but in my opinion, they can be boiled down to two: infectious and non-infectious. The non-infectious may be subdivided into fermentative and mechanical and that includes them all. No matter what the cause, proper feeding will go further toward a cure than anything else. I believe there is only one medicine that does any good and that is some form of opium: paregoric or laudanum.

When we are dealing with a baby with diarrhoea it is very important that we get a careful history; a history of the case as to his food, etc., and a study of the stools will most always tell us whether we are dealing with a fermentative, mechanical or an infectious diarrhoea. If we see the case early before there has been too much loss of fluids it is well to give an initial purge, then if there is much pain and straining it should be controlled with paregoric or laudanum. Fluids should be given freely by mouth if retained, or by hypodermoclysis if not retained by mouth. One or two daily enemas of strong tea will add much to the baby's comfort.

As to diet in these cases, nothing serves me better than Marriott's lactic acid milk formula. It is so easy to prepare that he calls it a fool proof formula. To one pint of boiled water 3 ounces of red Karo is added, then one teaspoonful of pure lactic acid. To the required quantity of evaporated milk an equal quantity of the above Karo lactic acid mixture is added. Marriott has given this to new born babies without any bad effects. This is the part of this paper I want to especially emphasize: if you forget everything else I have said I want you to remember this simple formula. I have had very sick children with dysentery, bloody stools, etc., to recover on this formula without any medication whatever.

In conclusion, gentlemen, I want to apologize for the simplicity of this paper. I have stressed things we all know but most of us neglect.

But let me say again, "Let's fix these fundamental facts about babies; their stomach capacity, their weight, their food requirements, teething time, etc., so we can advise mothers intelligently.

CASE REPORT

I was called in to see a child, P. B., a little Jewess, 4½ years old, who was taken ill the day before while in Memphis. She gave history of having eaten some kind of fish and some pork the day before going to Memphis. While there they consulted a pediatrician who gave her some kachmagma and a tonic containing iron, malt and egg albumin. When I saw the child she was vomiting everything she tried to take into the stomach. She had rapid pulse and showed every evidence of being a pretty sick patient. The bowel movements were so foul that you could hardly stay in the room.

I considered the case strictly one of protein poison. I first had the father go up town and get some pure peppermint candy and gave it to her, which relieved the vomiting. The further treatment was a withdrawal of all proteins and a carbohydrate diet was given. The recovery was rapid and uneventful.

Comatose Pernicious Malaria*

W. S. TAYLOR, M.D.
Isola, Miss.

This form is decidedly the most frequent and deadly of all cerebral pernicious fevers. Its characteristic stamp is the coma. Naturally, gradations occur, and in isolated cases the disturbance of the sensorium may progress only to deep stupor, though these cases will be described as soporose pernicious.

The coma may come on suddenly, or be preceded by slight disturbances of the sensorium, like somnolence, psychic depression, apathy, melancholia, etc. Moreover, the coma may occur with the first fever paroxysm, or, as is more frequent, several paroxysms pass uncomplicated before it suddenly appears.

As is well known to every physician coma often occurs in the simpler forms of malaria, but the type which I wish to emphasize is the one which has so often baffled and confused me.

For the sake of clarity we will call it the "eclamptic" form, for, as so often happens, it comes on with extreme violence and suddenness.

So often the anamnesis is without significance, there being no previous history of chill or fever, or anything that might shed any light upon the case.

The patient may be suddenly struck down

and become unconscious while at work, or be stricken while asleep.

DIAGNOSIS

The diagnosis of comatose pernicious malaria comes into question almost only in regions where severe malaria is endemic, yet it occasionally happens that persons who have been infected in severe malaria districts depart from these and become ill elsewhere.

The possibility, then, of malarial disease must be taken into consideration, even in places free from malaria, when the patient is known to have left a malarial region only a short time before.

A confusion of comatose pernicious with different diseases of the brain and with toxemias is naturally very easy, especially when the anamnesis is not complete, as a matter of fact, such errors in diagnosis are very frequent in malarial regions, where the physicians are inclined to perceive malaria behind most infections.

It is usually cases of tuberculous meningitis, cerebral hemorrhage, or softening and uremia that comes into question.

Reversely it occasionally happens in places free from malaria that a pernicious coma does not arouse the slightest suspicion of malaria, and a corresponding error in diagnosis is made.

In addition to the enumerated anatomic diseases of the brain, sunstroke must be taken into consideration. This shows clinically considerable resemblance to comatose pernicious, and a further relation in another way, in that the effect of the sun's rays may produce an outbreak of comatose pernicious in persons infected with malaria.

It would carry us too far to enter into the differential diagnosis of these different diseases, and I omit all the more readily since we possess in the blood examination the best method of diagnosing or excluding malaria.

But in the vast majority of cases of this kind coming to the attention of the general practitioner, he is out and away from any laboratory facilities and of necessity must rely solely upon the clinical picture before him and in the absence of a blood test exclude as best he can from the clinical and physical findings other diseases which may simulate comatose pernicious and in the event of doubt, which in many cases will be unavoidable, give the patient the benefit of the doubt and administer your only life saver "quinine."

PROGNOSIS

The prognosis in this type of malaria must be very guarded depending largely upon early and prompt treatment and the responsiveness of the patient to the treatment.

There are no doubt many factors which will effect the outcome in a given case, the extremities of age, the very old and young make

*Read at meeting of Delta Medical Society, Moorhead, Miss., October 9, 1935.

poor subjects, then again the physically defective, weak heart or kidneys, or anything which has a tendency to lower resistance.

The early and free use of quinine either hypodermically or intravenously, for a child 5 or 6 years old give 15½ gr. of quinine with urea intramuscularly and repeat every six hours until decided improvement is noted and then once daily until out of danger.

Give atrophine sulphate or strychnine and nitroglycerine to stimulate, open the peripheral circulation and assist the quinine in reaching the capillaries.

As soon as oral medication is possible give calomel to the point of purgation and throw open every excretory channel.

Infant Feeding*

F. S. HILL, M.D.
Grenada, Miss.

Up until twenty-five years ago one of the most difficult problems that the physician had was the artificial feeding of the infant that had to be deprived of the mother's milk. He had no concrete knowledge upon which to base feeding formulas as we have today. He fed his patients on foods or milk that he had fed others on and they survived. He would try one formula that had been successful on some baby that he had treated before, then if he failed he would try another, then another without knowing the cause of the failure of any one of the formulas or food, and by the time he had reached the end of his row the baby had also reached the end of his row and could not digest anything and death from gastro-intestinal disturbance or starvation was inevitable.

Cow's, goat's and other animals' milk have been resorted to as a substitute, with cow's milk taking the lead and goat's milk possibly second. Cow's milk was fed to babies successfully in some cases, but many died of gastro-intestinal disturbances and diarrheas without a known cause; but now we know that many of those failures in the use of cow's milk were due to the feeding of raw milk and bacterial contamination. It was formerly thought that failures with cow's milk were due to the difference in the chemical composition as compared with mother's milk. Attempts at the modification by dilution or addition with various other substances met with failure until the factor of bacterial contamination was considered and methods adopted to insure absence of harmful organisms. It was found that babies did better when the milk supply was handled in a sanitary and hygienic way. However, milk is one of our best culture media

and when handled after the most sanitary fashion, as for instance, in certified milk, it still contains from ten to twenty thousand bacteria per cc. Many attempts have been made to explain the failures with cow's milk feedings, incriminating every one of its constituents. It was once thought that protein was at fault, knowing that cow's milk had 3.5 per cent protein and mother's milk had 1.5 per cent; but a few years later Finklestein and others fed children and claimed to cure diarrheas by feeding pure casein which was made by precipitating the casein from cow's milk by the addition of pepsin. Then too, it was noticed that babies did not do well when casein was removed from the milk and just the rest of the constituents fed. We know that the reason for this was that the child was not getting enough nutrition and was suffering for lack of calories. However, some babies were fed with some degree of success with whey, because they did not have the nutritional requirements of others, but most suffered from the reduction. Some believed because the baby did not do well it was due to the fat content of the milk, so the milk was accordingly skimmed and, of course, when this was done the child suffered again from the lack of nutrition due to this reduction because whole milk contains twenty calories per ounce and skimmed milk only ten. However, many fed skimmed milk with a great deal of success by adding other substances to overcome the loss of fat. The substances that were added were principally carbohydrates or sugars in the form of barley, flour, malt, etc. Then it was noticed that many babies fed in this manner began to have diarrheas from excess sugar. It would cease when the sugar was omitted. Accordingly it was postulated that excess of carbohydrates was the cause of the nutritional disturbances of artificially fed infants, so entirely different types of formulas were devised. The carbohydrates were reduced by dilution or separation of the whey, the fat and protein being undisturbed except for dilution. It was found that a certain number of infants could be fed satisfactorily this way, provided a total volume of food was given. The general impression of everyone after the study of all the constituents of cow's milk was that some substance in the milk was at fault.

Roth with his percentage feeding was next in line and it was most successful in the hands of the most skilled and experienced physicians. The idea of this was to simulate mother's milk by reduction and addition of the different constituents as was necessary. Proteins were reduced to 1.5, fat and sugars were added according to their needs after studying the stools. If it was thought that fat was at fault, it was reduced and sugar and protein added in its place after the same fashion.

*Read before the Winona District Medical Society.

Then the other constituents were juggled. As I have said before this method was too complicated for the average physician because there were still many things unsolved about cow's milk.

Mariott and others found that the casein curds were larger and coarser than the ones of the mother's milk and required more acid to reduce the size of these curds because the casein of cow's milk sopped up the natural acid in the baby's stomach more readily than mother's milk. Then they began to use different acids to buffer the curds. It was also found that the size of the curd could be materially reduced by exposing to high temperature. That is why many of the dried milks on the market and evaporated milk make a very satisfactory feeding for infants.

There is no point in feeding a baby any of the proprietary foods if the fundamental principles of infant feeding are adhered to. Sour milk and boiled cow's milk will answer all purposes, and any infant can be successfully fed on same. When this fails you can usually find that the baby is suffering from some focal infection or is sick from some other cause which is holding him back and causing the milk to disagree. One ounce of cow's milk contains 20 calories. The baby requires one and one-half ounces of milk for each pound of the body weight. The milk should always be boiled to free it from harmful bacteria. There must be enough vitamins to prevent rickets and scurvy, and to raise the general resistance of the child. Then mineral salts of the body must be maintained.

In a word the following are the requirements for feeding a baby:

1. Sufficient calories.
2. Sufficient protein carbohydrate mineral salts and water and vitamins A, B, C, and D.
3. There must be no harmful bacteria present.
4. The food must be digestible.

Any form of food whether it is cow's milk, proprietary, or otherwise that adheres to the above requirements can be fed successfully.

In feeding a baby on cow's milk for example: a baby that weighs sixteen pounds may be given an ounce and a half of boiled cow's milk per pound, which is twenty-four ounces of milk. He should be fed at four hour intervals, the last ending at 10 o'clock at night which would give him five feedings. At that weight he should take about six and one half ounces at a feeding, then water should be added to make up the dilution. If you have twenty-four ounces of cow's milk, add 8 ounces of water and you have a quart of feeding for the baby. Then if the calories are deficient, that is made up with Karo syrup (brown), one ounce of Karo is equivalent to 120 calories. By adding two ounces of Karo you get 240 more calories

of food to the baby's diet. Remembering that one ounce of cow's milk is 20 calories, 24 ounces of cow's milk is 480 calories. Then with 240 calories added to that the total nutritional value of your feeding would be 720, which, as you readily see, is about the caloric value of a quart of whole cow's milk. A baby weighing sixteen pounds should have 45 calories per pound of body weight, then your milk feeding that we have just prescribed as you will see will be 720 calories which makes the above calculation exactly correct.

Weak and undernourished babies can take many more calories or much more food per pound of body weight and digest it than they are supposed to have. For instance, I have given babies as high as 120 calories per pound of body weight and they gained as much as a pound and a half a week until they reached a normal weight. I mention sour milk feeding above, which I use more than I do sweetmilk formulas because the baby can take larger amounts of food and digest it than they can of sweetmilk. A baby's stomach has very little acid in it and for this fact when we add acid to the milk it renders the curd more digestible and reduces it in size and makes it easier to pass through the pylorus. For this fact we can give more concentrated solution and satisfy the baby's needs better. All cow's milk formulas should be fed at four hour intervals. It takes cow's milk two and one-half hours to pass through the stomach. The stomach requires one and one-half hours rest, so four feedings has proven to be the most satisfactory feedings in my hands. With mother's milk it is different, it takes one and one-half hours for mother's milk to pass through the stomach and the stomach requires the same one and one-half hours rest, consequently it is perfectly all right to feed at three hour intervals on mother's milk. Many mothers feel that you are starving their babies to death when you tell them to feed the baby at four hour intervals. If you are feeding a baby a quart of milk and give it every fifteen minutes in 24 hours the baby has a quart, so you can readily see that you are not starving the baby and he very soon becomes like an alarm clock to wake up right on the dot to feed. Then the mother has four hours in which to go and work and attend to her other duties which makes things much easier for her.

TO SUMMARIZE

1. All babies can be fed on cow's milk if the fundamental principles of infant feeding are adhered to.
2. The feeding of cow's milk is much cheaper because everybody has a cow or can obtain cow's milk.
3. If cow's milk is boiled it is absolutely safe.
4. Proprietary foods may be fed to an in-

fant if the fundamental principles of feeding are adhered to, but at a much higher cost than cow's milk.

Ectopic Pregnancy*

J. R. SIMMS, JR., M.D.

and

J. C. CULLEY, M.D.

The term ectopic pregnancy applies to those conditions where the fertilized ovum becomes implanted in some structure outside of the uterus; this may take place (1) in the tube, (2) in the ovary, or (3) on the peritoneum of the abdominal cavity. The vast majority of cases take place in the tube, and usually it is in the outer half; when nidation occurs in that portion of the tube which traverses the uterine wall it is called "interstitial pregnancy."

Incidence. The incidence during the past few years appears to be increasing. At present it is one case of ectopic pregnancy to every 250 births. This does not take into account the normal pregnancies which terminate by abortion nor the ectopic pregnancies which recover without operation or diagnosis.

ETIOLOGY. DeLee⁽¹⁾ says, "the actual causes are unknown, but the following have been advanced with more or less plausibility, in the order named: (1) salpingitis, (2) pelvic adhesions, (3) infantile tubes with lack of cilia, (4) external wandering of the ovum, (5) diverticula and accessory tubes, (6) decidual reaction of the tubes, (7) disease of the corpus luteum, (8) increased invasiveness of the ovum, favoring early nidation, (9) spasm of the tube, muscle insufficiency, and antiperistalsis."

Ectopic pregnancy is frequently found in tubes which have previously been damaged by salpingitis. The infection in the tube may have been due to gonorrhea, to puerperal infection, to post-abortion infection, or to appendicitis with secondary involvement of the tube, and tuberculous salpingitis has preceded ectopic gestation⁽²⁾. Infection in the tube causes destruction of the cilia, or it glues the surfaces of the mucosa together, or causes the formation of blind pouches in the tube, or perhaps external adhesions result with the formation of kinks. Any of these conditions would interrupt the passage of the ovum from the ovary to the uterus. Formerly gonorrhea was considered to be the most common cause of the disease in the tube, but more recent studies cast considerable doubt on this point. For example, Echols⁽³⁾ in reporting a series of 103 cases says, "my own observations fail to confirm the prominent part assigned to the gonococcus. Only two women in my series gave

a clear cut history of gonorrhea," and Heiman⁽⁴⁾ reported no history or evidence of gonorrheal infection in series of 30 cases at the Cincinnati General Hospital during the years 1932 and 1933. Both of these men and also Englemann⁽⁵⁾ note that a large number of their patients had had previous abortions. Labhardt⁽⁶⁾ thinks that the increased incidence of tubal pregnancy in recent years is due largely to the growing use of contraceptive and abortive measures. Bernard⁽⁷⁾ reached the same conclusions after a study of 645 cases at the Basel Women's Clinic.

Pelvic adhesions, following inflammatory processes or operations, may bind, kink, or otherwise distort the tube so as to hinder the ovum in its journey to the uterus and favor ectopic pregnancy.

Infantile tubes have many convolutions, the cilia are poorly developed, and the peristaltic movements, favoring migration toward the uterus, are weak.

When one lacks some anatomic explanation for the ectopic pregnancy various theories have been advanced to account for the condition. Sippel⁽⁸⁾ observed that the ovum may enter the tube on the opposite side from the ovary from which it sprang, as where the right tube and left ovary have been removed and a subsequent pregnancy develops. Sippel assumed that during the extra length of the journey across the pelvis the ovum develops until it is too large to pass through the tube, and also that after a certain interval of time the trophoblastic layer of the egg begins to exert its influence, and implantation may occur in the tube or ever in the peritoneum before the tube is reached.

PATHOLOGY. Tubal pregnancy is the most common form of ectopic gestation, and the ovum is destined to early destruction. In the uterus the ovum develops in a mucous membrane capable of a thick decidual reaction and where a decidua basalis forms to protect the underlying uterine musculature and blood vessels from the invading trophoblast of the ovum. The uterine vessels are small and the uterine musculature will undergo great stretching and hypertrophy to accommodate the growing ovum. Whereas in the tube there is only a scanty decidual reaction to protect the muscle fibers and the large blood vessels of the tube from the erosion of the trophoblast. The tubal muscularis is not capable of much stretching or hypertrophy, and it is for these reasons that the ovum is usually destroyed by the second month, and it is only very rare that the tube will accommodate the growing ovum until term without rupture. The usual termination is: (1) rupture of the tube, (2) tubal abortion, (3) mole formation.

Rupture of the tube is the usual termination in a pregnancy located in the isthmic

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or interstitial portion of the tube. The growing ovum distends the tube to the point of rupture, or the invading fetal tissue separates and thins out the muscle fibers so that at the placental site the wall is very weak. The rupture may be spontaneous or the result of some traumatism. Such a rupture of the external capsule of the ovum, i.e., of the wall of the tube itself is termed an extracapsular rupture. The rupture may take place on the free surface of the tube, and hemorrhage take place into the abdominal cavity, or the rupture may take place into the broad ligament so that a hematoma forms between the two folds of this structure and is felt as a mass lateral to the uterus.

TUBAL ABORTION. Implantation of the ovum in the outer half of the tube is generally followed by tubal abortion. A hemorrhage takes place under the placenta due to erosion of a large blood vessel by chorionic villi; the ovum becomes detached and rupture takes place in the fetal capsule (the bag of waters) but not in the wall of the tube. This is termed intra-capsular rupture. The fetal parts and blood fill the tube and pour into the abdomen. If the blood is confined to the tube and clots, continued flow will cause the tube to distend, the fetus will be destroyed, and a "tubal mole" or hematosalpinx results.

HEMATOCELE. Blood reaching the peritoneal surface, whether it be from a rupture of the tube or from tubal abortion, gravitates into the pelvis and clots. Fibrin forms and adhesions attach adjacent structures—intestines, uterus, omentum, etc.—to the coagulated blood mass. This is a hematocoele and the surrounding organs form a sort of capsule. Further hemorrhage may frustrate the attempt at walling off, and another capsule will be formed by organs further removed from the area. At first the hematocoele is felt in the pouch of Douglas as a soft, doughy mass, but after semi-organization takes place it is firm and may be confused with an ovarian tumor. A large hematocoele may form quickly from a sudden extensive hemorrhage or from a slow hemorrhage over a longer time or from repeated hemorrhages. A single extensive hemorrhage may be so great as to cause sudden collapse of the patient and death, or the woman may die from a second hemorrhage or from repeated hemorrhages.

Previous to the time of the rupture should the posterior culdesac have been obliterated by adhesions then the blood mass will collect in front of the uterus, and it may fill the lower abdomen. It may be to either side of the uterus and depending upon its location organs are displaced accordingly.

After the rupture or tubal abortion the fetal tissue and blood clots are dissolved by the action of enzymes and subsequently absorbed.

Small embryos are rapidly absorbed. The same thing happens also in the case of a tubal mole or hematosalpinx; the fetal tissue quickly disappears, and it may be difficult to find the products of gestation in a specimen removed at operation.

The result of these hematoceles is not always so happy for absorption is not always accomplished, and the large mass of clotted blood is easily infected. Long drawn out suppuration starts and eventually may be very crippling to the pelvic organs and from which the patient may not recover. The suppurating mass may break through the pelvic colon, bladder, or the vagina.

SECONDARY ABDOMINAL PREGNANCY. The ovum is not always killed at the time of the abortion or rupture, but may escape into the abdomen and continue its development. This is a secondary abdominal pregnancy. The placenta is attached at the primary location and as growth proceeds other structures as the omentum, broad ligament, or other peritoneal surface may be used by the placenta as a source of blood supply.

The ovum may rarely go on to term as a secondary abdominal pregnancy or it may die at any time due to a separation of, or a hemorrhage into, the placenta.

After the death of the fetus first maceration takes place, then the amniotic fluid, and the soft parts are absorbed or the mass may become infected, from the blood stream or by direct extension of microorganisms through the intestinal walls. A long process of suppuration then ensues and from which the patient may not get well. The necrotic fetal tissues and bones sometimes slough through the rectum, or other pelvic organ, to the outside. Mummification is another end result following death of the fetus. The amniotic fluid is absorbed and this is followed by absorption of water of the fetal tissues. A deposition of calcium salts takes place in the surrounding membranes and sometimes in the fetal tissue proper; this is called a lithopedion.

Titus⁽⁹⁾ recently reported an abdominal pregnancy of approximately eight months which was calcified and carried as an abdominal tumor for 40 years. Accurate diagnosis before operation was done by means of injection of the uterus and tubes with iodized oil and the X-ray. Fetal bones were demonstrated outside of the uterus and tubes.

It is interesting to note that in the literature of the past five years there are reported eight cases of ectopic gestation which went to full term, and three instances in which living babies without deformity were delivered.⁽¹⁰⁾⁽¹¹⁾⁽¹²⁾ Most of these were secondary abdominal pregnancies.

PRIMARY ABDOMINAL PREGNANCY. This form of ectopic pregnancy is exceedingly rare.

In fact some authorities have denied its existence, and rigid criteria must be satisfied before a case may be classified as such. Among these are the following taken from the article by Best:⁽¹³⁾ (1) a normal appearance of the tubes, ovaries, and broad ligaments except at the site of the implantation of the ovum, (2) absence of evidence of penetration of the space between the broad ligaments by the fimbriated extremity of the tube, (3) absence of intraligamentary rupture of the tube, (4) lack of evidence of escape of ova from the uterine cavity.

A few authentic cases have been reported which satisfy these criteria. Best⁽¹³⁾ of Texas, reported a case in 1931 and gave a review of the literature. Harrar⁽¹⁴⁾ found ten cases of apparent primary abdominal pregnancy out of 156,000 cases at the New York Lying-In Hospital.

CASE REPORT. We wish to report a case of primary abdominal pregnancy, seen by one of us (J.C.C.) some time ago. G. B., colored, age 32, multipara was referred to me (J.C.C.) by her family physician, who telephoned that his patient had been in labor a whole day, and that he had called in another physician in consultation. After several attempts at delivery with forceps they decided to send her to the hospital. At the time of the telephone conversation, which was about 10:00 a. m., he stated that the baby was still living. She reached the hospital at 3:00 p. m.

Examination on admission showed a healthy looking negro woman, apparently nine months pregnant. The contour of the abdomen was that of a normal pregnancy; the head was at the pelvic inlet. She was not in shock and stated that she was a full term, and had been in labor a whole day before the attempt at delivery with forceps was made. Vaginal examination showed the uterus slightly larger than normal with the canal dilated to admit two fingers. Seizing the cervical lip with a volsellum, a uterine sound was passed into the canal. It was met by no obstruction and the full length of about twelve inches. Realizing that the sound had passed through an opening in the uterus into the peritoneal cavity, and that we were dealing with an extra-uterine pregnancy, preparation was made for immediate operation.

At operation the uterus was found to be slightly enlarged; a small rent being in the posterior wall. Both tubes were intact and both ovaries were normal. Attached to the mesentery and posterior abdominal wall on the right side, above the brim of the pelvis, was a normal placenta and amniotic sac. The head of the fetus was engaged in the pelvis, thus pushing the uterus and bladder downward; the uterus was acutely flexed. There was some traumatism of the pelvic organs due to the at-

tempt to apply the forceps to the head. The sac was opened and a full term baby delivered, which was dead, but only for a few hours as the skin was perfectly healthy. The placenta and membranes were removed with very little trouble, and practically no loss of blood. A small drain was placed in the lower end of the incision for three or four days. The patient made an uneventful recovery, not even developing a peritonitis. Ether anesthesia was used in this case.

OVARIAN PREGNANCY. Ovarian pregnancy occurs but it is one of the more rare forms, and we will not go into the details of the pathology.

CHANGES IN THE UTERUS. In ectopic pregnancy the uterus gradually increases in size to that of a two months intrauterine pregnancy. There is a decidual reaction in the uterus much like that following a normal pregnancy. With the death of the ovum at the time of rupture, tubal abortion, or spurious labor, the uterus begins to contract and it casts off the decidua, either as a solid cast of the uterine cavity, or as shreds of tissue, some times described as fleshy material. Some bleeding from the congested uterine veins take place at this time but it is not very great.

SUBSEQUENT DISEASE. Thomas⁽¹⁵⁾ had a case in which a ruptured tubal pregnancy, removed by operation, was followed within a short time by malignant disease of the chorion, i.e., chorion epithelioma.

SYMPTOMS. The patient misses her period and she soon considers herself pregnant because other symptoms of early pregnancy are soon in evidence. Next cramp-like or sharp lancinating pains are complained of over the lower abdomen and more so on one side or the other. If the pain is very sudden, sharp and lancinating in character together with pallor, rapid thready pulse, air hunger, and collapse or dizziness a rupture of the tube with severe hemorrhage into the abdominal cavity has occurred. Violent pain at weekly intervals has accompanied the course of a case⁽¹⁶⁾ that went to full term, while another case⁽¹⁷⁾ went to full term without pain or even other signs or symptoms sufficient to make a diagnosis of ectopic pregnancy. Soon after the pain moderate uterine bleeding begins and the uterus casts off the decidua.

Marked symptoms of shock are present, and they are out of proportion to the visible signs of blood loss. The patient may bleed to death but generally they survive the first hemorrhage.

In the majority of cases the rupture of the tube or the tubal abortion occurs gradually, the blood loss is not so great, and the true condition may not be recognized at the time. The patient may describe the attack as a fainting spell. The vaginal bleeding may not be-

gin at once after the first pains, but may be delayed for a few weeks.

Pelvic examination of a case of ruptured ectopic pregnancy reveals a mass in the posterior culdesac. It is soft and doughy if the hemorrhage is recent or firm if the hematocele has undergone semi-organization. A hematocele may attain such a size that it may be felt through the abdomen. A tender mass to either side of the uterus suggests hematoma in the broad ligament.

If the secondary abdominal pregnancy continues its development, various digestive disorders are apt to follow the resulting peritoneal irritation. Absorption of a hematocele may be evidenced by jaundice and a slight elevation of temperature. Infection of a hematocele or infection of macerated fetal parts following spurious labor in secondary abdominal pregnancy gives the characteristic symptoms of sepsis.

Other symptoms which may be encountered are nausea, vomiting, and urinary disturbances. Fainting or sudden weakness is present in about sixty per cent of the cases. Cullen's sign, which is bluish discoloration around the umbilicus is not constant; Bethney⁽¹⁸⁾ found it only once in a series of 167 cases. Salmon⁽¹⁹⁾ has very recently called attention to a new sign, namely, unilateral dilatation of the pupil.

DIAGNOSIS. There is no pathognomonic sign or symptom of ectopic gestation. To appreciate this fact we have but to recall its varied and complex pathology as just related. The diagnosis of ectopic pregnancy is very rarely made in the stage before the rupture of the tube or before a hemorrhage into it occurs. In this stage the tube is soft and palpation difficult.

In the stage of rupture or hemorrhage the case permits recognition. Quoting DeLee⁽²⁰⁾ "when a woman in the reproductive period, after some irregularity of the menses, such as going over the proper time a few days, or having only a small amount, or even a more profuse flow, complains of cramping pains in the lower abdomen, mostly unilateral, with irregular uterine hemorrhage, the suspicion of ectopic pregnancy is aroused." If to this we have added the sudden lancinating pain and collapse or faintness, the diagnosis is almost certain, and finding a soft doughy mass or physical signs of a hematocele on pelvic examination confirms the diagnosis. Decidual shreds or a decidual cast of the uterine cavity is another confirmation. But cases are not always so characteristic of the above described so-called text book case. There may have been no appreciable menstrual irregularity, and in the latent stage the diagnosis is often very difficult to make. Indeed, this disease is characterized by many diagnostic difficulties

and even in the hands of expert gynecologists and obstetricians a high percentage of errors is the rule.

DIFFERENTIAL DIAGNOSIS. Common conditions to be considered are the following:

NORMAL PREGNANCY. Normal pregnancy of two or three months' duration, in which there is asymmetry of the uterus, may be confusing. Examination under ether usually serves to decide what we are dealing with, and because of the ease of confusing the two conditions Graves⁽²¹⁾ strongly urges this as a preliminary to performing laparotomy for ectopic pregnancy.

ABORTION. Here the onset is quiet, external hemorrhage profuse or moderate, and symptoms of shock are not out of proportion to the visible blood loss as they are in ectopic gestation. The vaginal discharge nearly always contains chorionic villi, and the pelvis is empty; whereas in ectopic pregnancy a mass is found by the side of or behind the uterus.

PYOSALPINX. A pyosalpinx is often very difficult to differentiate from ectopic pregnancy; an infected hematocele resulting from a tubal abortion or tubal rupture may very closely simulate a pus tube, and sometimes the diagnosis can not be made before operation. In both conditions we may have irregularity of the menses, pain, a pelvic mass, fever, and a leukocytosis. However, some of the signs or symptoms of ectopic pregnancy are usually present in that condition, and a history of gonorrhea and evidence of that infection with bilateral tender masses suggests pus tubes.

OVARIAN TUMOR. This condition presented diagnostic difficulties in one of our cases at the Oxford Hospital recently. A woman age 35, para four, the first of which was a high forceps delivery, came to us with a history of moderate bleeding for the past three months, and severe low abdominal pain, more marked on the left side, for the past two weeks. The menses had been regular until the onset of the present illness. During Christmas week (1934) she had a sudden fall, in crossing the back yard, and it was soon afterward that the pain began and the bleeding was somewhat increased. Pelvic examination revealed a rather firm, tender, rounded mass to the left of the uterus and extending to the middle of the culdesac. A tentative diagnosis of ectopic pregnancy was made, but microscopic examination of uterine scrapings revealed no decidua, and the diagnosis was then changed to ovarian tumor. Laparotomy revealed a tumor of the left ovary with numerous adhesions involving the ovary, tube, uterus, and broad ligament on that side, and accompanied by an inflammatory reaction. There was some free, dark colored blood in the area. There were about three nodular masses in the broad

ligament laterally; these were thought to be lymph nodes as inflammation was present, however, they were removed. Microscopic examination of the left ovary and the nodes showed adenocarcinoma.

Talliaferro⁽²²⁾ had an intraligamentous extra-uterine pregnancy with a living fetus complicating an intraligamentous ovarian cyst. After laparotomy a fetus of normal weight was delivered, and it lived for several hours. There was a cranial deformity present.

Ovarian tumor complicating a normal early intrauterine pregnancy may give signs and symptoms much like an ectopic pregnancy.

ACUTE APPENDICITIS. This disease may have to be considered in the differential diagnosis. As an example, I will relate another one of our cases. A young woman about 27 years of age, who had had one child, came to us one night with every indication of an acute appendicitis, general abdominal pain, later becoming severe and localized in the lower right quadrant, with nausea, vomiting, and localized rigidity. The leucocyte count was high. The diagnosis was acute appendicitis, and operation revealed a hematosalpinx, and a small stream of blood spurted from the fibrinated extremity with each heart beat.

PREGNANCY IN A RETROVERTED UTERUS. The feel of the fundus of such a uterus may be much like that of a hematocele in the culdesac. A careful history and physical examination usually decides the question, or it may be necessary to watch the patient carefully for further developments.

RUPTURED GRAFFIAN FOLLICLE. In ruptured Graffian follicle with free hemorrhage into the peritoneal cavity, we have another condition which may on rare occasions furnish confusion. Other diseases, which in rare instances, may simulate the picture of a sudden rupture of an ectopic pregnancy with hemorrhage and collapse are the following: perforated peptic ulcer, cholecystitis with rupture, a perforated appendix or pus tube, and ovarian tumor with a twisted pedicle.

THE ASCHHEIM-ZONDEK TEST. Lately several writers⁽²³⁾⁽²⁴⁾⁽²⁵⁾ have reported on the use of this test in ectopic gestation, and on the whole it seems that the test is of no great usefulness. In extra-uterine pregnancy the embryo is usually dead by the time vaginal bleeding appears and the hormone tests become negative soon after the death of the embryo. Kaplun⁽²⁶⁾ thought that the A-Z test may be valuable in the decision as to the advisability of conservative treatment where the ovum has died early, and the trophoblast has ceased its invasion. He found no correlation between activity or inactivity of the trophoblast and the A-Z reaction.

SOME OBSERVATIONS IN EIGHT CASES. These patients have been treated by us dur-

ing the course of the past few years.

1. The ages were between 20 and 30, and most of the patients were negroes.

2. In the case of two there was no previous pregnancy, i.e., she had had no children and no miscarriages.

3. One had had a former operation for appendicitis, and one had had an abortion.

4. Correct diagnosis was made before operation in five, and a pre-operative diagnosis of pus tubes was made in three.

5. In the series there were two cases of secondary abdominal pregnancy. In one the mass was attached to the anterior abdominal wall, the fundus of the uterus, and by a pedicle to the right tube; and in the other the sac was attached to the posterior surface of the uterus, and both tubes were adhered to the mass, and slightly filled with old blood. Intestines were loosely adhered to the sac in both of these instances.

6. One case of tubal pregnancy was unusual, in that it went to about seven and one half months before rupture.

7. In all cases the blood count was only moderately increased, i. e., 11,000—15,000.

8. All the patients presented, on admission, a history of menstrual irregularity.

9. All of the patients recovered, and the average hospital stay was 10.2 days. There were no complications.

10. Spinal anesthesia was used in each instance, except the case of primary abdominal pregnancy which was related above.

TREATMENT. Ectopic pregnancy is a surgical condition, and as a general rule demands prompt intervention. Should the diagnosis be made in an early stage before rupture has taken place immediate operation is to be advised because one does not know at what moment the sac may rupture and serious hemorrhage follow. Perhaps on rare occasions or for religious reasons the patient will insist on taking the risk and allowing the pregnancy to continue until such a time as the child is viable or to full term before consenting to operation. If the case is seen after the rupture has occurred then there is no other alternative than to advise operation at once if one is to offer the patient the best chances for recovery.

If the patient is in shock from marked blood loss then a blood transfusion or the administration of glucose and saline intravenously is indicated at once. The administration of the latter need not delay the operation in any way.

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25. Goldberger, M. A., Salmon, U. J., and Frank, R. T.: The Value of the Friedman Test in Diagnosis of Intra-Uterine and Extra-Uterine Pregnancy. J.A.M.A. 103:1210 (Oct. 20) 1934.

26. Kaplun, E. M.: Activity of the Trophoblast and Aschheim-Zondek Reaction in Extra-Uterine Pregnancy. Zent. fur Gyn. 58:1826 (Aug. 4) 1934.

On to Greenville, the capital of the Delta, on the banks of the Father of Waters.

Why quibble over how pus is to be drained from a lung. If the pus is "well formed" and the patient has acquired his resistance, the method of drainage is not as important as some seem to think.

Hydatiform Mole*

W. B. DICKINS, M.D.
Greenwood, Miss.

Hydatiform mole is one of the diseases of pregnancy. It is a disease of the ovum, characterized, anatomically by a cystic degeneration of the chorionic villi. To be more specific, it is a myxomatous degeneration, starting in the epithelial cells of the villi, known as the Langhan's layer of cells and the syncytium, causing a proliferative, vesicular degeneration, with edema of the villi, thus forming numerous cysts, connected together in such a way as to resemble a bunch of grapes of irregular size. This degeneration causes the death of the foetus, and its absorption. After the death of the foetus, the mole continues to grow very rapidly, being nourished by the maternal blood as was the foetus.

It usually begins in the early weeks of pregnancy, terminating in abortion about the fourth or fifth month, rarely going to the sixth month. The uterus enlarges very rapidly, becoming soft, and unsymmetrical in shape. The villi may, however, penetrate deeply into the musculature of the uterus, perforating causing peritonitis and death. Then again the mole may undergo a malignant degeneration resulting in chorio-epithelioma. It is said that 45 per cent of cases of chorio-epithelioma were originally vesicular moles. In some cases of twin pregnancy, one foetus may undergo cystic degeneration the other remain normal, reaching full development.

HISTORY

Hypocrates, the father of medicine, knew about this disease. In the sixth century, Aetius of Amida, described it. In 1564, Vega, and in 1565 Schenk von Grafenberg reported cases. In -573 Vallerioli described it but thought the condition was due to bladder worms. Velpeau and Madame Boivin in 1827 were the first to describe the cysts as due to a degeneration of the chorionic villi. In 1847, Meckel showed also a hyperplasia of the connective tissue with edema. In 1853 Virchow stated that the process was a myxomatous degeneration of connective tissue and villi of the chorion. Marchand agreed with Virchow, and in 1895 said there might also occur at same time a polycystic degeneration of the ovaries.

The cysts discharged, during molar pregnancy, was once explained as so many separate embryos. The Countess of Hagenau was said to have discharged 365 embryos at a single labor.

The hydatidiform mole was so called, er-

*Read at meeting of Delta Medical Society, Oct. 9, 1935, Moorhead, Miss.

roneously, from its resemblance to a true hydatid, which is a cyst with aqueous contents formed by larva of a small tape worm, *taenia echinococcus* which in its adult condition is known to infest only the dog and wolf, while the larvae frequently occur in man.

ETIOLOGY

It is not due to the *echinococcus* as the hooklets have never been found in the cysts. The actual exciting cause is unknown.

Endometritis may explain some cases, but Marchand says that the changes in the endometrium are **secondary**, and not primary. At the 1901 meeting of the German Gynecological Congress, Aichel stated that he had been able to produce the condition experimentally in dogs by destroying the vessels going to the decidua, thereby interfering with the nutrition of the chorionic villi. Durante considers that the condition is due to endarteritis of the vessels of the villi.

SYMPTOMS

Rapid enlargement of the uterus, painless hemorrhages, or gushes of watery fluid due to bursting of the cysts. But the diagnostic symptom is the appearance of these characteristic cysts in the discharge.

PROGNOSIS

The prognosis is generally favorable if recognized early. The mortality is about 13 to 18 per cent. It has a tendency to recur in successive pregnancies. One case is reported to have had moles with 11 pregnancies. It most often occurs with the second or third pregnancy and between the ages of 30 and 40. The causes of death are hemorrhage, septic infection, uterine perforation with peritonitis, or malignant degeneration.

TREATMENT

All agree that the uterus should be emptied as soon as the diagnosis is made, in the easiest and gentlest manner, without use of curet or placental forceps. The vagina should be packed firmly to control hemorrhage, while the cervix is dilating. After the uterus is emptied, full doses of ergot to insure good contraction. Of course, after examination of the specimen, if malignancy is found a pan-hysterectomy should be performed at once.

Edgar says that this is a rare disease occurring once in 20,000 cases. DeLee reports nine cases with one death due to infection. Koenig reported 12 cases. Giglio 13 cases.

In my practice of nearly 40 years, I have had only one case. The report follows:

Mrs. John N., white, 28, living 10 miles from Greenwood came to my office April 21, 1932, to engage me to attend her during confinement. She stated that she was about 3½ months pregnant, her last menstruation having been Dec. 30, 1931, estimated date of confinement Oct. 6, 1932. Married 6 years. Two

healthy children—ages of, 5 and 2. Previous pregnancies and labors both normal. Family history: Both parents living in good health. Husband's health good. No miscarriages. No serious illness, and no trouble so far with this her third pregnancy.

Examination: Head, chest, heart, lungs, abdomen, normal. Uterus about the size of 4th month pregnancy. B. P. 120/80, urine normal. No nausea, no leukorrhoea, no constipation. Advised her to report in one month or sooner if necessary. She returned to office May 31, stating that she had a slight bloody discharge, but no pains, no nausea, and did not feel bad. She had felt no movements. I advised her to go to bed and remain absolutely quiet till all signs of discharge had stopped and to notify me at once if pains started. I was called to see her 4 days later, June 3rd. She was feeling well and wanted to get up, but as soon as she did there was a bloody discharge, but no pains. No movements felt, and no foetal heart sounds could be heard, apparently about five months pregnant, but uterus felt soft, and unsymmetrical in shape. There was no dilatation of cervix. Thinking I had a case of threatened miscarriage, due likely to a partial separation of placenta, or a partial placenta previa, no fever, pulse normal, I advised her to remain in bed, to get a nurse. I left her uterine sedatives, to be taken if needed. I was called again seven days later, June 10, and found her passing blood and clots, with irregular pains in back and abdomen. Upon examination, I found cervix dilated, sufficiently to admit 2 fingers, with a mass protruding which felt like the placenta. I then noticed on my glove and in the bloody discharge small cysts, dark gray or purplish, about the size of a pea. Then for the first time I knew I had a case of vesicular mole. I at once packed the cervix and vagina, and advised her to be taken to the hospital in an ambulance. She refused to do this. So I left her in charge of a nurse. I returned next morning, June 11, and at noon delivered a hydatidiform mole with large amount of bloody fluid, but no sign of a foetus. This specimen was about the size of a 3½ month foetus. I gave 1 cc. pituitrin, and left ergot in the form of ergotamine tartrate, gynergin tablets, one to be taken every 4 hours. Uterus was well contracted, and I felt sure thoroughly emptied. Her recovery was uneventful. After two days the ergot was continued three times daily. I sent the specimen to the laboratory to be sure there was no evidence of chorio-epithelioma. She has been in good health now three years, so I feel sure the following laboratory report is correct.

Patient: Mrs. John N.

Dr. W. B. Dickins, Greenwood, Miss.

SURGICAL PATHOLOGY

Specimen from Uterus—Numerous pieces,

largest 3x1 to 1-4x3-4 to 1-8 inch, irregular, made up of numerous cysts connected by fine shreds, largest 3-4x3-8x1-2 inch, and blood clots. Mostly dark grey.

Microscopic: Hydatidiform mole. Villi drop-sical; covering cells (Syncytium and Langhans') show proliferation. Considerable blood clot.

Diagnosis: Hydatidiform mole.

Microscopic preparation enclosed.

Note: From the appearance of the tissue, it is not possible to state definitely in regard to malignancy. The villi of hydatidiform moles grow into the uterine musculature and sometimes give rise to malignant, tumor-like extension and metastasis. However, such invasive growth is by no means constant, and the woman may recover her health perfectly and even give birth to a second hydatiform mole or a normal child. It is only through determining the relation of the tissue to the uterine muscle, together with clinical symptoms, that a diagnosis can be made with certainty.

There is some hope now that the Ascheim-Zondek test may be of value in determining malignancy. It is thought that probably a test will remain positive if the cells continue to grow in the uterine wall or elsewhere, while it will become negative if the cells disappear. Considerable work is being done on this now and the test will be especially valuable if it works out.

LEON S. LIPPINCOTT

CONCLUSIONS

Hydatidiform or vesicular mole is always a disease of pregnancy. It is a true mole.

It is not of maternal but of foetal origin.

It is not due to infection but sometimes terminates by infection.

It is not a malignancy but may end in chorio-epithelioma.

It is a degenerative disease, pathologically, a myxomatous degeneration of the chorionic villi into little cysts dangling from each other much like a bunch of grapes. Diagnosis is confirmed by finding these cysts.

Treatment: All agree that uterus should be emptied at once.

Mississippi State Board of Health

Scholarships for four-year medical courses have been recently awarded by the Committee of Awards at Tulane University to the following students:

Gilcin F. Meadors, Clarkedale, Miss.

Thomas V. Finch, McComb, Miss.

Chester A. McClarty, Oxford, Miss.

J. P. Tatum, Meridian, Miss.

These scholarships are made available as a

part of the medical education and public health program of the Commonwealth Fund of New York with the Mississippi State Board of Health. Each scholarship provides \$1,000 a year and office equipment when the physician is ready to begin the practice of medicine. Four students who have received awards are now serving hospital internships. One has already located, and 18 are still in school.

Recent visitors to the Mississippi State Board of Health offices: Dr. C. St. C. Guild, National Tuberculosis Association, New York, N. Y.; John McLeod, Sanitation Consultant U. C. Public Health Service, Washington, D. C.

During the second week of April, Dr. Felix J. Underwood attended three meetings in Washington. First, as chairman of the Committee on Record and Reports of the Conference of State and Provincial Health Authorities, he presided over a meeting of this Committee, and uniform record forms were formulated for use in all areas receiving funds from the Social Security Act through the U. S. Public Health Service. He attended the two-day session called by the Surgeon General of health officers from all states and territories of the United States, and then attended a two-day conference called by the Children's Bureau for the purpose of discussing maternal and child health activities to be carried out under the Social Security Act. Dr. J. A. Milne, Supervisor of the State Board of Health Field Unit and member of the Committee of Records and Reports, also attended the meeting.

To give aid and to help in rehabilitation in the devastated areas in and around Tupelo, the State Board of Health dispatched four county health officers, fifteen nurses, two engineers, and several sanitation supervisors. An emergency chlorinator was sent to be used in taking care of the water supply. Vaccines and other supplies were also furnished for use in the stricken area.

Woman's Auxiliary

TO THE

MISSISSIPPI STATE MEDICAL ASSOCIATION

President Mrs. Leon S. Lippincott
Vicksburg

President-Elect Mrs. Adna G. Wilde
Jackson

Secretary Mrs. H. C. Ricks
Jackson

Treasurer Mrs. J. W. D. Dicks
Natchez

Press and Publicity Chairman... Mrs. Hugh Johnston
Vicksburg

—Program—

WOMAN'S AUXILIARY TO THE MISSISSIPPI
STATE MEDICAL ASSOCIATION

—Executive Board Meeting—

Monday, May 4, 3:30 p. m.

—Luncheon for Doctors and Wives—
12 o'clock noon
Dining-room—Masonic Temple
Dr. Morris Fishbein, guest speaker

—Opening Session—
Tuesday, May 5, 2 p. m.
Masonic Temple
Mrs. J. Bonar White, guest speaker

—General Session—
Wednesday, May 6, 9 a. m.

—May Breakfast—
Thursday, May 7
LeRoy Percy Park
10:00 to 12:30 o'clock
Hostesses: Delta Auxiliary
(Cars for transportation provided by Junior Auxiliary)

The Methodist Ladies' Auxiliary is serving meals Wednesday, May 6, at noon and at six o'clock that evening for 50c to everyone. The president of this organization is Mrs. Pegues, a doctor's wife whose appreciation of the situation warrants delicious meals, comfortably and quickly served.

THIRTEENTH ANNUALS SESSION

of the

WOMAN'S AUXILIARY TO THE MISSISSIPPI STATE MEDICAL ASSOCIATION

Make your plans now to attend the convention in Greenville, May 4-7, inclusive. Many lovely affairs have been planned for the pleasure of the visitors, and a large attendance is expected.

The Auxiliary feels very honored that Dr. Morris Fishbein, Chicago, editor of the Journal of the American Medical Association, will give an address at the luncheon planned by the auxiliary for the doctors on Tuesday, May 5, at noon. Dr. Fishbein is one of the councilors for the Woman's Auxiliary to the American Medical Association. The fact that Dr. Fishbein is in such close touch with the affairs of the Auxiliary gives promise of a most enlightening and inspiring address.

Dr. J. R. Hill, president of the Mississippi State Medical Association, and Dr. Harvey F. Garrison, president-elect, each will bring a message to those who will be present at the luncheon on Tuesday.

The business session of the Auxiliary begins with the executive board meeting on Monday, May 4, at 3:30 p. m. The opening session of the general business meeting will take place at 2 p. m. Tuesday, May 5. Reports from the state officers and chairmen will be given, at that time.

Our friend, Mrs. J. Bonar White, Atlanta, Ga., first vice-president of the Woman's Auxiliary to the American Medical Association, has generously consented to be with us again this year. Those of us who were privileged to hear Mrs. White's splendid talk last year, will look forward with much pleasure to having her with us again. Those who did not have that opportunity will have something very fine and inspiring in store for them, when Mrs. White is presented.

Wednesday, May 6, 9 a. m. will start the last session of the general meeting. Auxiliary reports will be heard, and unfinished business from the day before transacted.

Mrs. Wilde, our president-elect, will announce the time of her post-convention board meeting.

Election of new officers, then adjourn. We hope to complete our business session Wednesday forenoon.

NATIONAL CONVENTION—KANSAS CITY MAY 11-14, 1936

Mississippi Auxiliary is entitled to two delegates to attend the annual meeting of the Woman's Auxiliary to the American Medical Association. If any one is planning to go, will they please send in their names to Mrs. Leon S. Lippincott, Vicksburg. It is to be hoped that Mississippi will have a representation at this meeting. It is not as far to go as some of the cities in which the national convention has been held, and it is probable more will attend.

Did it ever occur to you that your neighboring auxiliary would appreciate an invitation to attend your regular business meeting some time during the year. Some of the auxiliaries have exchanged visits this year, and from the comments heard, much inspiration and pleasure were the results.

VICKSBURG SOCIAL NOTES

Mrs. B. B. Martin has her sister, Mrs. Sanders visiting her.

Mrs. W. H. Parsons is visiting in Memphis and St. Louis.

Dr. and Mrs. Edley Jones and Edley Jr., have just returned from a delightful visit to New Orleans.

Mrs. Leon Lippincott recently visited in Greenville, Starkville, Meridian, and other Mississippi towns in the interest of the Uedical Auxiliary, of which she is the state president.

Dr. and Mrs. Benson Martin Jr., attended the pilgrimage in Natchez and from there they drove to New Orleans.

Little Bobbie Street, attractive son of Dr. and Mrs. A. Street, celebrated his fourth birthday this month.

Dr. and Mrs. Hugh H. Johnston are receiving the congratulations of their many friends upon the arrival of a fine son who has been named for his father.

Mrs. Lawrence Clark is enjoying a visit of her father, during his convalescence from a severe illness.

The friends of Dr. C. J. Edwards are glad to see him out again after his recent illness.

Members of the Issaquenna, Sharkey, Warren Counties Medical Auxiliary are looking forward with much pleasure to a visit to the Central Medical Auxiliary on Tuesday, April 7th.

Friends of Mrs. M. H. Bell are glad to see her out again after her recent illness.

Dr. and Mrs. F. M. Smith have recently purchased an attractive home on Harris Street and moved into it on the first of April.

Mrs. Preston Herring is expecting a short visit

Members of the Auxiliary are planning to attend from her father, Dr. Greene, this month. the state meeting in Greenville in May.

MRS. PRESTON HERRING,
Press and Publicity Chairman.

MEETING OF WOMAN'S AUXILIARY TO THE DELTA MEDICAL SOCIETY

The eighth semi-annual meeting of the Woman's Auxiliary to the Delta Medical Society was held at the Cleveland Woman's Club, April 8, 1936 at 2 p. m., Mrs. H. L. Cockerham, president, in the chair.

The invocation was delivered by Rev. Edward Rudice, Pastor of the Christian Church, Greenville and Cleveland.

Mrs. L. L. Beall, Cleveland, in her very charming manner, welcomed the visitors and Mrs. T. J. Barkley, Isola, responded.

Mr. William Shutt and Mrs. William Allen Tornwall, students at Delta State Teachers' College, en-

tertained us with beautiful piano and vocal solos.

Dr. William Zeigle, Dean of Delta State Teachers' College, was the principal speaker of the occasion. He talked on the subject of "Teaching as a Profession" and made us all realize the urgent need for qualified teachers in our schools.

Mrs. J. D. Simmons, Gunnison, gave a reading entitled, "Difficult Love-making." She also read a poem, "To a Doctor's Bride," written by Mrs. L. T. Evans, Batesville, Ark.

A most delightful talk on "Jane Todd Crawford" was given by Mrs. S. M. Shankle, Hollandale.

This part of the program was followed by the business session. There was a roll call of members—37 in number—and this was an increase of eleven over last year.

Mrs. J. A. Beals, Greenville, Councilor for the First District, gave us most interesting sidelights on the program and entertainment to be given when the Mississippi State Medical Association convenes in Greenville May 5, 6 and 7. She urged everyone to be present.

Mrs. J. W. Jackson, Belzoni, reported \$5 sent to Tupelo for relief from the Humphreys County unit.

The following delegates and alternates were elected to the Woman's Auxiliary to the Mississippi State Medical Association:

Delegates: Mrs. A. M. Wynne, Merigold; Mrs. H. L. Cockerham, Gunnison; Mrs. S. D. Newell, Inverness; Mrs. T. J. Barkley, Isola. Alternates: Mrs. J. L. Nichols, Alligator; Mrs. J. C. Higdon, Belzoni; Mrs. S. M. Shankle, Hollandale; Mrs. W. E. Wiggins, Indianola.

After the meeting adjourned, the local members of the Auxiliary entertained the visitors with a very delightful tea. Then we played bridge until seven o'clock, at which time we joined the doctors at the American Legion Hut where a delicious banquet was served.

HOMOCHITTO VALLEY AUXILIARY

The Auxiliary to the Homochitto Valley Medical Society was entertained by the Homochitto Valley Medical Society at luncheon at the regular meeting, April ninth in Natchez. After luncheon the ladies withdrew to hold a short business meeting. Mrs. J. R. Hill of Corinth, was a visitor. Mrs. Jennings Fields of Centerville, was welcomed as a new member.

MRS. E. E. BENOIST, Pub. Chairman.

MEDICAL SOCIETY

Woman's Club Building, Cleveland, 2:30 p. m. Business Session.

Tea, 4:30 p. m., Woman's Club, Mrs. L. L. Beall, Hostess.

Banquet, 7:00 p. m. at Legion Hut with the Doctors.

In announcing the above meeting, Dr. F. M. Acree, Secretary stated as follows:

"At this meeting also will be brought up three important business matters; first, there will be change in the policy of our programs, as was decided upon by the board of Governors, at the special called meeting held March fifth. Secondly, the Delta has a great opportunity in the development of LeRoy Percy Park, where healing waters have been found. A movement has already been launched to develop this place into an institution similar to or rivaling Warm Springs, Georgia. The Delta Society should endorse this project and aid in its development. Third, plans will be made for entertaining the State Association meeting to be held at Greenville, May 5, 6, 7.

Dr. J. W. Lucas, Moorhead, President, presided.

MISSISSIPPI NEWS

Mississippi State Medical Association

TO THE OFFICERS AND MEMBERS OF THE MEDICAL SOCIETIES OF MISSISSIPPI

My Dear Doctors:

My information is that we are going to have one of our very best programs for the State Medical Association at Greenville, this year.

I have just been in correspondence with the other officers of the Association in regard to the hotel facilities for the physicians who anticipate attending this meeting. I have been assured that ample arrangements have been made to take care of everyone. Write Hotel Greenville for reservations, immediately, and they in turn will give your letter to the proper committee to handle your reservation.

There are some very important matters to be brought before the Association at this meeting, for the benefit and protection of the medical profession of this State. It behooves every member of the Mississippi State Medical Association to be present.

Allow me to again insist that you, at this final moment, go out and get a few more members, for your local and State Medical Association, before going to Greenville, in order that our membership at least will be equal to, or exceed that of last year.

Anticipating with much pleasure the opportunity of seeing you at Greenville, I am, cordially and sincerely,

Your servant.

HARVEY F. GARRISON

President-Elect Miss. State Medical Ass'n.

MISSISSIPPI STATE HOSPITAL ASSOCIATION,
MAY 4

MISSISSIPPI STATE MEDICAL ASSOCIATION,
MAY 5, 6, 7

There will be plenty of room in Greenville for everybody to be comfortably situated for the meeting of the Mississippi State Medical Association. Some, of course, will be in private homes. We will appreciate you writing to Dr. C. B. Thompson in advance notifying him that you wish hotel or residence accommodations.

Be sure to come and enjoy yourself with us. There'll be a boat ride, golf game, other forms of entertainment after this meeting.

Dr. O. H. BECK,

Secretary

DIRECTOR AND CALENDAR OF MEDICAL SOCIETIES

Information is not complete. Secretaries of societies are urged to send in full data so that it may be known when the societies of the state meet; also the names of the officers directing their activities this year should be shown.

MISSISSIPPI STATE MEDICAL ASSOCIATION:

Sixty-ninth Annual Session and Thirty-third Annual Session of the House of Delegates, Greenville, May 5, 6, and 7.

Mississippi State Hospital Association: Seventh Annual Session, Greenville, May 4.

Adams County Medical Society: W. K. Stowers, Natchez, president; F. S. Dixon, Natchez, secretary. Meets third Tuesday each month. Natchez, 7:30 p. m.

Amite County Medical Society: D. H. Thornhill Crosby, secretary.

Central Medical Society: E. L. Walker, Magee, president; L. W. Long, Jackson, secretary. Meets third Tuesday each month, Robert E. Lee Hotel Roof, Jackson, 7:00 p. m.

Claiborne County Medical Society: E. P. Jones, Hernandville, president; G. W. Acker, Port Gibson, secretary.

Clarksdale and Six Counties Medical Society: D. O. Pierce, Jonestown, president; N. C. Knight, Clarksdale, secretary. Meets fourth Wednesday of March and second Wednesday of November, Elks Club, Clarksdale, 2 p. m.

Clarke-Wayne Counties Medical Society: W. P. Gray, Waynesboro, president; Albert Hand, Shubuta, secretary.

Cochahoma County Medical Society: J. A. Slack, Friars Point, president; N. C. KNIGHT, Clarksdale, secretary. Meets second Wednesday each month, Clarksdale Hospital, Clarksdale, 1:30 p. m.

Delta Medical Society: J. W. Lucas, Moorhead, president; F. M. Acree, Greenville, secretary. Meets second Wednesday of April and October. Rotates through five counties, 2 p. m.

DeSoto County Medical Society: A. J. Weissinger, Hernando, president; L. L. Minor, Rt. 4., Memphis, secretary. Meets first Monday on January, April, July, October, Hernando, 10 a. m.

East Mississippi Medical Society: C. H. Gully, DeKalb, president; T. L. Bennett, Meridian, secretary.

Franklin County Medical Society: L. Costley, Meadville, secretary.

Hancock County Medical Society: A. P. Smith, Bay St. Louis, secretary.

Homochitto Valley Medical Society: Lucien S. Gaudet, Natchez, president; W. K. Stowers, Natchez, secretary. Meets January, April, July and October, 2:00 p. m.

Issaquena-Sharkey Warren Counties Medical Society: T. P. Sparks, Jr., Vicksburg, president; Leon S. Lippincott, Vicksburg, secretary. Meets second Tuesday each month, Elks Club, Vicksburg, 7 p. m.

Jackson County Medical Society: W. J. Weatherford, Pascagoula, president; R. G. Lander, Pascagoula, secretary. Meets second Thursday of March, June, September and December, Jackson County Hospital, Pascagoula, 7 p. m.

Jefferson County Medical Society: W. T. Harper, Fayette, secretary.

Newton County Medical Society: W. T. Pennington, Decatur, president; A. H. Little, Oxford, Secretary.

Northeast Mississippi Thirteen Counties Medical Society: Z. A. Dorsey, Troy, president; A. J. Stacy, Tupelo, secretary. Meets third Tuesday, March, June, September and December.

Pike County Medical Society: J. L. Bauer, McComb, president; Elise Rutledge, McComb, secretary. Meets first Thursday each month, McComb, 6:30 p. m.

Pontotoc County Medical Society: L. O. Carruth, Tupelo, R.F.D., president; O. F. Carr, Pontotoc, secretary. Meets first Tuesday each month, Pontotoc.

South Mississippi Medical Society: J. Gould Gardner, Columbia, president; F. T. Bower, Hattiesburg, secretary.

Stone County Medical Society: Earl W. Green, Wiggins, secretary. Meets with Harrison-Stone-Hancock Counties Medical Society.

Tate County Medical Society: W. D. Smith, Senatobia, president; J. Sidney Eason, Coldwater, secretary. Meets second Wednesday each month, Senatobia.

Tri-County Medical Society: H. R. Fairfax, Brookhaven, president; R. B. Zeller, Hazlehurst, secretary. Meets second Tuesday of March, Copiah-Lincoln

Junio College, Wesson; June, Walthal Hotel, Tyler-town; September, Riverside Hotel, Monticello; December, Whitworth College, Brookhaven, 12:30 p. m.

Wilkinson County Medical Society: E. M. Butler, Centreville, secretary.

Winona District Medical Society: P. B. Brumby, Lexington, secretary.

MISSISSIPPI HOSPITALS—CALENDAR OF STAFF MEETINGS

Anderson Infirmary: Second Friday, each month, 6:00 p. m.

Biloxi Hospital: First Friday, each month, 7:30 p. m.

Clarksdale Hospital: Second Wednesday, each month, 1:30 p. m.

George C. Hixon Memorial Hospital: First Monday, each month.

Greenwood Leflore Hospital: Second Monday, each month, 8:00 p. m.

Houston Hospital: Last Thursday, each month, 7:30 p. m.

Jackson County Hospital: Second Thursday, each month except July and August, 7:00 p. m.

Jackson Infirmary: Last Tuesday, each month, 6 p. m.

Meridian Sanitarium: Second Thursday, each month, 6:30 p. m.

Mississippi Baptist Hospital: Third Tuesday, each month, 6:30 p. m.

Natchez Sanatorium: Second Tuesday, each month, 7:30 p. m.

Northeast Mississippi Hospital: First Monday, each month, 7:30 p. m.

Rush's Infirmary: Second Thursday, each month, 7:00 p. m.

South Mississippi Infirmary: Last Thursday, each month, 5:00 p. m.

U. S. Veterans Hospital, Gulfport: Every Monday, Tuesday, Wednesday, and Thursday, 10:45 a. m.

Vicksburg Hospital: Second Thursday, each month, 7:00 p. m.

Vicksburg Infirmary: First Wednesday, each month, 7:00 p. m.

Vicksburg Sanitarium: Tenth or week of tenth each month, 6:30 p. m.

Winona Infirmary: First Thursday, each month, 7:30 p. m.

SECOND COUNCILOR DISTRICT

The North Mississippi Medical Society and the separate county units of DeSoto and Tate are in advance of a year ago. I have not as yet the exact data, but the membership and attendance are better.

Secretaries Eason Little and Minor have been diligent as have presidents Smith, Grant and Weissinger.

L. L. MINOR, Councilor.

Route 4, Memphis, Tenn.

THE SOUTHEASTERN SURGICAL CONGRESS

"March 23, 1936

"Dr. John Darrington,

"Yazoo City, Miss.

"Dear Dr. Darrington:

"I am sure you have heard of the sudden passing of Dr. Miller, our President. It is needless for me to say that we are all terribly grieved.

"With his passing you assume the duties of President of the Congress and I shall communicate with you later.

"Yours very truly,

"B. T. Beasley, M.D.

"Sec.-Treas."

While there is genuine and sincere regret for the loss of Dr. Jeff Miller, someone must carry on. Eve-

ry doctor in Mississippi will be delighted and proud that "Dr. John" is the man. He will do it well.

NOTICE

Mississippi State Podiatric Society will hold its annual meeting, Hotel Greenville, Greenville, May 4, 7:00 p. m. A banquet to precede the scientific program.

THE SCIENTIFIC PROGRAM

"Immunization Problems," Dr. E. C. Mitchell, Memphis, Tenn.

"The Prematurity Problem," Dr. Harvey F. Garrison, Jr., Jackson, Miss.

All members of the Mississippi Medical Association are cordially invited to attend. Banquet \$1.00 per person. Please notify Dr. G. C. Jarratt, Secretary-Treasurer, Vicksburg, if you wish a reservation to attend this meeting.

TEN LECTURES AND CLINICS IN OBSTETRICS GULF COAST CIRCUIT

Sponsors: Mississippi State Medical Association; Mississippi State Board of Health; Tulane University Graduate School of Medicine; Tulane University School of Medicine; Mississippi State Hospital Association.

Schedule of Classes

Laurel (Jones County) Mondays, beginning March 30 at 1:00 p. m. in the South Mississippi Charity Hospital.

Hattiesburg (Forrest, Perry, and Lamar Counties) Tuesdays, beginning March 31 at 12:00 noon in the Forrest Hotel.

Poplarville-Picayune (Pearl River County), Wednesdays, beginning April 1 at 1:00 p. m. First five meetings to be held in basement of the First Baptist Church, Poplarville; last five meetings to be held in Peach Tree Inn, Picayune.

Gulfport (Harrison, Stone and Hancock Counties) Tuesdays, beginning April 2 at 7:30 p. m. in the King's Daughters Hospital.

Pascagoula (Jackson County), Fridays, beginning April 3 at 7:30 p. m. in the Jackson County Hospital.

Outline

Each meeting will be approximately two hours in length, the first hour for lectures by the Field Clinician, Dr. Maxwell E. Lapham, of Philadelphia, and the second for clinical demonstration and round-table discussions. The subjects for the meetings are:

1. Early Diagnosis of Pregnancy
First Prenatal Examination
2. Progress of Pregnancy
Prenatal Instructions
Some Complications of Pregnancy
3. Abortion
4. Hemorrhage in Pregnancy and Puerperium
5. Toxemias of Pregnancy
6. Management of Normal Labor
7. Some Abnormal Positions and Presentations
8. Post Partum Care
Puerperal Complications
9. Care of the Newborn
10. Gynecological Complications of Pregnancy
Final Puerperal Examination

Over three hundred physicians have participated in this educational undertaking. Attendance has averaged higher than eighty per cent of the twenty-four previous centers. In scores of written comments on the course, physicians have said the classes were all worth while and they would attend future classes in other branches of medicine if given another opportunity.

Courses will be organized in circuits to place this educational opportunity within the reach of every Mississippi physician as rapidly as the territory can be served.

The comments and suggestions of the members of the Mississippi State Medical Association are invited.

AMITE COUNTY MEDICAL SOCIETY

On Thursday, March 12, at 6:30 p. m., the Amite County Medical Society held a joint meeting with the Wilkinson County Medical society at Centreville, in the Field Memorial Hospital.

An interesting paper was presented by Dr. Williams, radiologist of Baton Rouge, on "The Treatment of Fibroid Tumors of the Uterus With Radium." Another paper was presented by Dr. D. H. Thornhill on "Inflammatory Affections of the Breast." Attendance was nearly 100 per cent.

D. H. Thornhill, Secretary.

Crosby.

JOINT MEETING OF THE CENTRAL MEDICAL WITH THE G. M. & N. RAILROAD ASSO- CIATION OF SURGEONS

Robert E. Lee Hotel, Jackson, April 7

Afternoon Program

2:00 p. m. Called to order by Dr. W. N. Blount, Laurel, Miss., Chief Surgeon, G. M. & N. R. R.

"A Word of Welcome" by Dr. Harvey F. Garrison, Jackson, Miss., President-Elect, Mississippi State Medical Association.

Announcements by Dr. Willis Walley, Jackson, Miss., President G. M. & N. R. R. Association of Surgeons.

"The Treatment of Compound Fractures," by Dr. Frank Hagaman, Jackson, Mississippi. Discussion opened by Dr. John Darrington, Dr. Thomas H. Blake.

"Fracture of Os Calcis," by Dr. Charles C. Green, Houston, Texas, Chief Surgeon, Southern Pacific Railroad.

At the conclusion of the above program, a short business session of the G. M. & N. R. R. Association of Surgeons.

5:00 p. m. Business Session of the Central Medical Medical Society.

Evening Session

6:00 p. m. Banquet, Robert E. Lee Hotel, G. M. & N. R. R. Surgeons, Members of the Central Medical Society, and visitors.

Meeting called to order by Dr. E. L. Walker, Magee, Miss., President, Central Medical Society.

Address by Mr. I. B. Tigrett, Jackson, Tenn., President, G. M. & N. R. R.

"Endo-Crinopathies on the Railroad," by Dr. Jas. H. Hutton, Chicago, Ill., Consulting Surgeon, Illinois Central Railroad.

"Pre- and Post-operative Treatment," by Dr. Alton Ochsner, New Orleans, La., Professor of Surgery, Tulane University.

L. W. LONG, Secretary.

CLARKSDALE AND SIX COUNTIES MEDICAL SOCIETY

The sixty-eighth semi-annual session of the Clarksdale and Six Counties Medical Society was called to order by the president, Dr. D. O. Pierce, in the American Legion Hut at Clarksdale at 2 p. m., March 25. The president ordered the secretary to read the minutes, same being approved as read. A correction in the wording of the current program was then made by Dr. T. M. Dye.

Under the heading of new business the following delegates and alternates were elected to the 1936 meeting of the Mississippi State Medical Association: T. G. Hughes, Clarksdale; J. A. Clack, Friars Point, Alternate. A. C. Covington, Marks; E. A. McVey, Lambert, Alternate. D. G. Bardwell, Charleston; L. Biles, Sumner, Alternate. L. H. Breward, Dundee; W. H. Williams, Tunica, Alternate.

The secretary then read a letter from the New

Orleans Chamber of Commerce inviting physicians to attend the National Tuberculosis Association meeting there April 20-25. Another letter from the Issaquena-Sharkey-Warren Counties Medical Society was read inviting this Society to exchange essayists with them in November. Dr. T. M. Dye made a motion which was seconded and carried that Dr. N. C. Knight be appointed essayist from the Clarksdale and Six Counties Medical Society to the Issaquena-Sharkey-Warren.

The scientific session being next in order same was as follows:

1. Sodium Evipal as an Intravenous Anaesthetic in Surgery—J. L. Levy, Clarksdale. Discussed by T. M. Dye, closed by J. L. Levy.

2. Immunity and Immunizations—H. F. Garrison, Jackson. Discussed by L. B. Austin, N. C. Knight, L. H. Brevard, W. S. Slaughter, A. W. Rhyne. Closed by H. F. Garrison.

3. Case Presentation—A. W. Rhyne, Coahoma. Discussed by several members and visitors.

4. The Incidence of Syphilis Among Applicants for Positions in one Industry as Demonstrated by the Wassermann Test—H. C. Ricks, Jackson. Discussed by T. M. Dye, E. L. Wilkins, H. F. Garrison, L. B. Austin, H. L. Cockerham. Closed by H. C. Ricks.

5. The Use of X-ray in the Treatment of Acute Infections—H. D. Gray. Discussed by S. B. Caruthers, L. B. Austin, W. L. Slaughter. Closed by H. D. Gray.

6. Some Cystologic Changes in Allergy—I. W. Barrett, Clarksdale. Discussed by T. M. Dye. Closed by I. W. Barrett.

Dr. H. F. Garrison then made a short talk relative to the meeting of the State Medical Association this year, emphasizing importance of membership in local and state societies, and inviting the Clarksdale and Six Counties Medical Society to the next meeting of the Central Medical Society in April.

Recess

At 7:30 p. m. the meeting was reconvened in the banquet hall of the Alcazar Hotel. During the banquet a program of entertainment was rendered. Following the banquet the scientific session was resumed as follows:

7. Some Phases of the Diarrheal Disorders in Children—Tom Mitchell, Memphis, Tenn.

The president then appointed the following committee to draw up resolutions commemorating Dr. E. C. Gillespie, of Lambert, who recently died: T. M. Dye, W. S. Slaughter, E. A. McVey.

There being no further business the society adjourned.

NORRIS C. KNIGHT, Secretary
Clarksdale.

COAHOMA COUNTY MEDICAL SOCIETY and CLARKSDALE HOSPITAL MEDICAL STAFF

The Coahoma County Medical Society and the Clarksdale Hospital Medical Staff were called to order in the nurses' home of the Clarksdale Hospital at 1:30 p. m., March 11, by the president, Dr. J. A. Slack, Friars Point. He ordered the secretary to read the minutes which were approved as read.

Under the heading of old business the secretary read letters from Jo Hopkins, Jr., J. M. Talbot, and George Richey, representatives and senator from this county and district respectively, relative to the hospital reorganization bill in the Mississippi legislature.

Under the heading of new business Mr. Bob Bobo of the Clarksdale Merchants Credit Association made a talk relative to the establishment of a physicians' credit bureau in conjunction with the Merchants Credit Association. His talk was discussed by sev-

eral members present and Dr. T. M. Dye made a motion that the society endorse the plan as proposed by Mr. Bobo; motion seconded by Dr. Brandon and carried unanimously. The president then appointed the following men to serve as a committee of relations between the medical society and the Clarksdale Hospital: E. LeRoy Wilkins, Clarksdale, Chairman; T. G. Hughes, Clarksdale; W. H. Brandon, Clarksdale.

The health officer, Dr. N. C. Knight, then announced that Dr. W. D. Hickerson, field clinician of the Mississippi State Sanatorium, would hold a Tuberculosis Diagnostic Clinic in Clarksdale the week beginning March 16.

The scientific session being the next order of business, same was immediately entered into as follows:

"Traumatic Surgery"—4 reel motion picture. Discussed by several members present. The secretary was instructed to secure motion pictures for future meetings.

There being no further business the society adjourned.

N. C. KNIGHT, Secretary.
Clarksdale.

DELTA MEDICAL SOCIETY

23rd semi-annual meeting, Cleveland, Wednesday, April 8, auditorium of Delta State Teachers' College, 2:00 p. m.

PROGRAM

Business Session:

Invocation—Rev. R. A. Bolling.

2:00 p. m. Meeting called to order by president.

Address of Welcome—Dr. E. R. McLean.

Response—Dr. J. S. Sanders, Leland.

Address—Joe T. McCain, Cleveland.

Scientific Session:

"The Failing Heart in Middle Age"—Dr. J. P. Wiggins, Cleveland.

"The Conductor of Norman Labor"—Dr. J. F. Lucas, Greenville.

"When Drunk"—Dr. R. P. Smith, Drew.

"Traumatic Injuries of the Knee Joint"—Dr. Willis C. Campbell, Memphis.

Social Session:

Banquet 7:00 p. m. at Legion Hut—Judge Fitzhugh of Memphis, will speak.

WOMAN'S AUXILIARY TO THE DELTA EAST MISSISSIPPI MEDICAL SOCIETY

Nineteen Thirty-Six First Quarterly Meeting, Thursday, March 5, Mezzanine Floor, Lamar Hotel, Meridian, beginning at 5:00 p. m.

PROGRAM

Afternoon Session

5:00 p. m. Traumatic Surgery of the Extremities (moving picture, courtesy of Davis & Geck, Inc.)—Presented by E. B. Key, Meridian.

5:45 p. m. Pyloric-Stenosis—W. B. Hickman, Louisville.

6:30 p. m. Dinner (Dutch)—Arranged by T. G. Cleveland.

Evening Session

7:15 p. m. Business, Election of New Members. Reports of Committees.

7:30 p. m. Pyelo-Nephritis in Children—F. G. Riley, Meridian.

8:00 p. m. The Scope of Neuro-Surgery—Chalmers H. Moore, Birmingham.

Exhibit

Patent Medicine and Quackery—28 Posters—American Medical Association.

Officers—C. M. Gully, president; T. L. Bennett, secretary.

Committee on Arrangements: T. L. Bennett, D. V. Galloway, H. H. Robinson.

LAUDERDALE COUNTY AUXILIARY

Joint meeting with the East Mississippi Medical Society, Thursday, March 5, Mezzanine Floor, Lamar Hotel, Meridian, beginning with supper at 7:00 p. m. Officers: Mrs. H. Lowry Rush, president; Mrs. G. L. Arrington, first vice-president; Mrs. G. W. Bounds, second vice-president; Mrs. T. L. Bennett, secretary.

HARRISON-STONE-HANCOCK COUNTIES
MEDICAL SOCIETY

The January meeting of the Harrison-Stone-Hancock Counties Medical Society was held in Pass Christian at the invitation of Drs. Rafferty and Lake. Knowing their hospitality from previous meetings, it was a foregone conclusion that very few members would be absent. Nearly every member was present as the retiring president, Dr. LeBaron turned the meeting over to the following new officers: President, Dr. Geo. Wallace; Vice-President, Dr. Joe Evans; Secretary, Dr. E. B. Van Ness; Delegate to the State Medical Association, Dr. Chas. LeBaron, alternate Dr. A. F. Caraway. After a discussion of the meeting of the Southern Medical Association in St. Louis, the members adjourned to the refreshment and beverage tables for more informal discussion of less weighty matters.

The February meeting of the society held at the Biloxi Hospital was given over to a motion picture show of medical subjects. These were so thoroughly enjoyed that the society has purchased a sixteen mm. projector in order that we may repeat these shows frequently.

The society has accepted four new members so far this year whom we are glad to welcome to the Gulf Coast. They are: Dr. H. D. Steele, Biloxi; Dr. B. J. Marshall, M.C., U.S.A. (retired), Gulfport; Dr. A. B. Jamison, Gulfport; and Dr. Wm. M. Hall, Bay St. Louis.

EDWIN B. VAN NESS, Secretary.

Gulfport.

HOMOCHITTO VALLEY MEDICAL SOCIETY

The Homochitto Valley Medical Society met in Natchez, April 9, with the ladies of the Woman's Auxiliary honoring us with their presence.

There was fine attendance and Dr. J. R. Hill, president of the Mississippi State Medical Association, and his good wife paid us a visit on the occasion. We were delighted and honored with the visit from them.

Dr. Hill gave us a splendid address, stressing the necessity of full co-operation of all medical men in the state for the further advancement of medicine and the profession.

He lauded the fine work that the ladies of the Mississippi State Women's Auxiliary were doing over the state which was a great help and appreciated by the medical profession.

LUCIEN S. GAUDET, President.

Natchez.

ISSAQUENA-SHARKEY-WARREN COUNTIES
MEDICAL SOCIETY

The regular monthly meeting of the Issaquena-Sharkey-Warren Counties Medical Society was held at the Elks Club, Vicksburg, Tuesday, April 14, with nineteen members present. Dr. W. H. Hamley, Lake Providence, La., was a guest. Dr. T. P. Sparks Jr., president, presided.

Program

1. The Causes of High Blood Pressure in Young Individuals.—Dr. W. K. Purks. Discussed by Drs. F. M. Smith, G. M. Street, G. W. Gaines, T. P. Sparks Jr., W. H. Scudder, A. Street, and W. E. Johnston. Dr. Purks closed.

2. Blood Chemistry in Kidney Disease.—Dr. Leon

S. Lippincott. Discussed by Drs. W. K. Purks and L. J. Clark. Dr. Lippincott closed.

3. Pneumonia.—Dr. L. J. Clark. Discussed by Drs. W. E. Johnson, W. P. Robert, N. J. Lewis, F. M. Smith, W. K. Purks, T. P. Sparks Jr., G. M. Street, G. W. Gaines, W. H. Hamley, W. H. Scudder, and Leon S. Lippincott. Dr. Clark closed.

The committee in charge of the program which was devoted to internal medicine consisted of Dr. L. J. Clark, chairman, Dr. W. K. Purks, Dr. H. S. Goodman, Dr. B. B. Martin Jr., and Dr. D. P. Street. A letter was received from Dr. Paul A. Paden, M.C., U.S.A., sending thanks for courtesies. Dr. Paden was formerly connected with the CCC Camp in Vicksburg and is now stationed at Station Hospital, Fort Moultrie at Charleston, South Carolina.

A letter was received from the Mississippi Tuberculosis Association inviting the members of the society to attend the annual meeting of the National Tuberculosis Association in New Orleans, April 22 to 25.

It was announced that the following societies have agreed to an exchange of essayists with this society for this year:

Tri County, Northeast Mississippi Thirteen Counties, Harrison-Stone-Hancock Counties, Clarksdale and Six Counties, South Mississippi, East Mississippi.

The following resolutions were unanimously adopted:

BE IT RESOLVED that this Society sends congratulations to Governor Hugh L. White of Mississippi for his excellent work in the office of Governor since his inauguration.

BE IT FURTHER RESOLVED that this Society implores Governor White to select as superintendent of the Mississippi State Charity Hospital at Vicksburg a member of this Society in good standing and through this Society associated with the Mississippi State Medical Association.

BE IT FURTHER RESOLVED that this Society respectfully asks Governor White to hasten his appointment of a superintendent of the Mississippi State Charity Hospital at Vicksburg, this request having only in mind the best care of the indigent sick.

An invitation was received from the Woman's Auxiliary to this Society to attend a banquet to be given in honor of the Society on Tuesday, April 21.

The next meeting of the Society will be held at the Elks Club, Tuesday, June 9. The subject will be pediatrics and the committee in charge is Drs. W. P. Robert, Vicksburg, chairman; G. C. Jarratt, Vicksburg; N. B. Lewis, Vicksburg.

LEON S. LIPPINCOTT, Secretary.

Vicksburg.

A quarterly meeting of the North Mississippi Medical Society was held at Holly Springs, Wednesday, April 15, at 2:30 p. m. in the City Hall.

The program as announced by the secretary, Dr. A. H. Little, Oxford, was as follows:

1. Invocation.—Rev. R. A. Morris, Holly Springs.
2. Business and the minutes of preceding meeting.
3. A few Mileposts Along the Road of Medical and Surgical Progress.—Dr. John Darrington, Yazoo City.

4. The Nature, Use, and Interpretation of Some Clinical Laboratory Tests.—Dr. V. B. Harrison, Holly Springs.

5. A Plea for Total Hysterectomy.—Dr. J. A. K. Birchett, Jr., Vicksburg.

Dr. R. G. Grant, Holly Springs, president, presided.

TISHOMINGO COUNTY MEDICAL SOCIETY

The Tishomingo Medical Society has had some interesting meetings lately, discussing among other things rehabilitation practice. We hope to reach a

satisfactory agreement about it soon. We stand for the resolution adopted by the Northeast Mississippi Thirteen Counties Medical Society last month.

T. P. HANEY, SR.

Iuka.

TRI-COUNTY MEDICAL SOCIETY

The following members of the Tri-County Medical Society attended the April 7 meeting of the Central Medical Society: Drs. Oscar Eubanks, Crystal Springs; S. E. Izard, New Hebron; J. W. Wilson, Monticello; C. L. Simmons, J. F. Scarborough, J. C. Maguire and R. B. Zellar, Hazlehurst.

The Tri-County Medical Society now has one honorary member and 32 members with dues paid up, having shown a gain during each of the past three years.

R. B. ZELLER, Secretary

Hazlehurst.

ADAMS COUNTY

The whole of our state has been thrown in deep sorrow by the terrible calamity in and around Tupelo, and our hearts go out to those who have suffered so much in this great calamity. As always, doctors and nurses responded whole heartedly in the hour of need, and others with money, food and clothing.

Greetings and good wishes to all of our state officers, and here is hoping we will all meet next month in the beautiful City of Greenville, in the famous Delta, and that we will have one of the best meetings, so that all who go will come back home and give three cheers for the time spent there.

All our doctors and families are getting straightened out from the epidemic of influenza we recently went through.

Dr. and Mrs. A. R. Perry are the happy parents of a little newcomer in their home. Best wishes to both of them. Dr. Perry's smile is always catching.

Well, here's to Greenville in May.

LUCIEN S. GAUDET, County Editor

Natchez.

DESOTO COUNTY

The catastrophe that has befallen the fine little city of Tupelo and lesser damage to other communities of our state has been heart rending; as to be expected, our doctors responded promptly and nobly.

Dr. A. V. Richmond, Lake Cormorant, has resumed his practice after a brief spell of illness.

Dr. D. C. Bunderburke, Olive Branch, was a visitor in Memphis recently.

Mrs. Ruth Hughes with Mr. Hughes and their young son visited her parents, Dr. and Mrs. J. A. Rhodes in Horn Lake. Dr. Rhodes has been "under the weather" but he is now up again. The Hughes reside in Oxford.

We are looking forward with pleasure to the Greenville meeting; hope to see many friends there.

L. L. MINOR, County Editor

Memphis, Tenn., Rt. 4

FRANKLIN COUNTY

The doctors of Franklin County held their regular quarterly meeting April 7, at the home of Dr. and Mrs. C. A. Everett in Bude.

Those present were: Dr. and Mrs. J. C. McGehee and Dr. and Mrs. C. E. Mullins, Bude; Dr. and Mrs. L. Costley, Meadville; and Dr. and Mrs. S. R. Towns, Quentin.

A most enjoyable lunch was served by "Grandpa and Grandma" Everett, assisted by their handsome daughter, Mrs. Torrey.

S. R. TOWNS, County Editor

Quentin.

ISSAQUENA COUNTY

Since sending in his last report this scribe has had the unique experience of having to take his own medicine.

He has cut and slashed many a poor unfortunate, and sent others to hospitals where they even fared worse, but at last he himself had to go to one. He could not get away from the thought that it was a just retribution for the evils he had done to his helpless patients.

But he had to go to save his eyesight. He was operated on for cataract of the left eye in the Memphis, Eye, Ear, Nose and Throat Hospital on St. Patrick's Day, (of blessed memory). Dr. Ellett did the operation. I was evidently considered a star patient as the doctor placed me under the care of the prettiest and most efficient nurse in the hospital.

I was accorded the further privilege and honor of occupying a room fitted out and dedicated to the hospital by Dr. and Mrs. E. C. Ellett.

Under such a skilled operator, followed up by the best attention and service, results were bound to be perfect. This stay at the hospital was a most pleasant experience, rather than an ordeal. He is secretly hoping it will not be long before the other eye will need an operation.

W. H. SCUDDER.

Mayersville.

JACKSON COUNTY

Dr. S. R. Ratliff is recuperating at his home in Vancleave following a serious operation performed at the Biloxi Hospital. His friends will be glad to know that his health will probably be much better than for the past few years.

A series of lectures and clinics by Dr. Maxwell E. Lapham started Friday, April 3, to be continued for ten weeks. The opportunity thus afforded for post-graduate work is greatly appreciated.

Miss Delia Money, former superintendent of the Jackson County Hospital, was recently married to Frank Jenlenko. Miss Esther Siurua has been elected superintendent in her stead.

R. G. LANDER, Secretary.

Pascagoula.

LEFLORE COUNTY

Dr. and Mrs. J. D. Biles, Sumner, attended the McLenore-Dyer wedding in Greenwood, March 2.

Dr. and Mrs. W. G. Tabb, Greenwood, returned from Memphis, March 6, where Mrs. Tabb was a patient at the Baptist hospital.

Dr. F. M. Sandifer, Greenwood, attended the meeting of the Southeastern Surgical Congress at New Orleans, March 6, and also visited with his son, who is at the Charity Hospital on the teaching intern staff.

Dr. J. A. Crawford, Greenwood, visited in Philadelphia, March 10.

Dr. W. D. Hickerson, State Sanatorium, visited Greenwood, March 12.

Dr. G. Y. Gillespie, Jr., Greenwood, visited his aunt in St. Louis, Mo., March 19 to 28.

Dr. W. H. Strahan, Covington, Ky., visited his son in Greenwood, March 21, and carried his son home with him, where he will live.

Dr. and Mrs. J. C. Adams, Greenwood, visited in Kosciusko, March 22.

Dr. L. H. Hightower, Itta Bena, visited his son, Jesse, in New Orleans, at Tulane where he is taking his course in medicine, March 22 to 24.

Dr. T. B. Holloman, Thornton, was a visitor to Greenwood, March 27.

Dr. S. Gwin Mounger has gone to New Orleans to be associated with Dr. C. W. Mattingly in the practice of medicine.

Dr. and Mrs. T. M. Riddell, Swiftown, have returned from New Orleans, where Dr. Riddell has

been taking a postgraduate course at Tulane.

The Mississippi State Medical Association will meet in the Delta at Greenville in May. We are glad to have the Association meet with us, and the doctors of Leflore county extend a most hearty welcome.

W. B. DICKINS, County Editor
Greenwood.

SUNFLOWER COUNTY

Dr. William D. Hickerson of the Tuberculosis Diagnostic Unit of the Mississippi State Board of Health spent three days in the county examining tuberculosis suspects. During his stay here he found several early cases of tuberculosis.

Dr. H. C. Kent has returned to the county after a prolonged illness in a Memphis hospital.

Dr. J. A. Clark, who has long been a physician in the Stansel family, made several trips to Jackson during the recent terminal illness of Mr. Horace P. Stansel to see him.

The Sunflower County physicians attending the meeting of the Delta Medical Society at Cleveland were: Dr. J. W. Lucas, president of the Society, Moorhead; Dr. U. S. Wasson, vice-president from Sunflower County, Moorhead; Dr. B. H. Higdon, Sunflower; Dr. R. C. Smith, Drew; Dr. B. H. Booth, Drew; and Dr. H. B. Cottrell, county health officer of Sunflower County. Dr. Smith read a splendid paper entitled "When Drunk." Dr. Smith states that his material was gotten from observation and reading rather than from experience.

Dr. H. L. Howard and Dr. H. B. Cottrell made a trip to the Tupelo storm area Monday to offer aid to those in distress. Medical supplies, bedding, and clothing furnished by local agencies were delivered. Two of the nurses and the county sanitation supervisor from the county health department rendered services in the Tupelo area in their respective capacities for three days.

H. B. COTTRELL, County Editor
Indianola.

TALLAHATCHIE COUNTY

Dr. and Mrs. J. E. Powell, Charleston, spent a couple of days in Memphis visiting their daughter.

The Tallahatchie County Medical Society met Friday evening, March 6. A full attendance was impossible on account of many physicians being so busy looking after influenza and pneumonia patients.

Tallahatchie County has had the worst epidemic influenza and pneumonia since 1918. The type resembled that of 1918. Many deaths have occurred during February and March.

The announcements are out of the marriage of Dr. D. Lacey Biles, Sumner, to Miss Lucie Evaline Dewees, Pochahontas, Wednesday, April 15. Dr. Biles is the son of Dr. J. D. Biles, Sumner, and is county health officer. He is very active and enjoys a lucrative practice.

The writer and Mrs. Moody journeyed to Natchez, Thursday, the 26, where the Governor and his staff with their wives had been invited by the Natchez Garden Club for a pilgrimage through the flower gardens and a visit to the antebellum homes. A pageant representing the antebellum days and a grand ball were given in honor of the Governor, his staff and their wives, Friday evening, which was a most enjoyable occasion. The pageant very beautifully depicted many antebellum social practices.

Saturday morning we journeyed to Vicksburg, after crossing the river to be able to drive on paved roads which do not exist on the Mississippi side of river. The Governor, his staff and their wives had been invited for a visit to the National Park where Governor White was to speak at 12 o'clock followed by a free lunch. After this enjoyable occasion a tour through the park was enjoyed by all who

cared to go, after which most of the party returned to their respective homes.

Mrs. Moody developed symptoms of influenza Sunday night, March 30, and is very uncomfortable at this writing.

The Charleston Hospital has been somewhat overrun for the past two months with an unusual number of appendicitis cases and pneumonia following influenza.

Drs. Bardwell, Powell and myself attended the meeting of the Clarksdale and Six Counties Medical Society at Clarksdale Wednesday, March 25. A fairly good attendance and an interesting program was enjoyed.

J. W. MOODY, County Editor.
Charleston.

TISHOMINGO COUNTY

Drs. Bostick, D. D. Cox and Brockstone went early Monday morning to aid the storm stricken sufferers at Tupelo.

Drs. Cromeans and Johnson visited Tupelo storm stricken area Tuesday evening. I am sorry to announce that Drs. McRae and Brown were on the puny list and not able to go to Tupelo or Red Bay either to assist the wounded.

Dr. L. B. Brockstone is installing a General Electric X-ray in his office at Iuka.

Dr. K. E. McRae was a business visitor in Iuka this week.

T. P. HANEY, County Editor.
Iuka.

WARREN COUNTY

Dr. Charlie Edwards is now back in his office. His absence was occasioned by a recent illness from which he has sufficiently recovered to devote half time to his office practice for the present.

The many friends of Dr. J. A. K. Birchett, Sr., are pleased to see him up and about again meeting and greeting all with that genial smile and courtly manner so characteristic of the doctor. The flu did not keep him in doors for any great while.

Dr. H. H. Haralson, so we are advised, was another of our doctors who met and vanquished the treacherous and dangerous flu.

On March 25, 1936, Dr. and Mrs. Hugh H. Johnston began repeating in unison the lullaby first sung by Du Bartas "My lovely living boy, my hope, my hope, my life, my joy." The occasion for this refrain was the welcome visit of Hugh Haralson Johnston, Jr., who came purposely, not only to make the proud parents happy, but to christen Dr. Sidney W. Johnston "granddaddy" and make Dr. H. H. Haralson great grandfather again, and last but not least to confer the title of "Uncle" on Dr. Walter E. Johnson.

Dr. Jack Parsons and wife this month made a trip to Memphis, St. Louis, etc., on a short pleasure or outing jaunt but we suspect Jack did not pass up the Memphis or St. Louis hospitals without taking a peek within.

Dr. Nathan B. Lewis, of our city, has been appointed camp physician to two of the CCC Camps located in the National Park, Vicksburg. This position was formerly filled by Dr. P. A. Paden who was transferred last month to some similar service in South Carolina.

Dr. John Whitney, who has been associated with the Vicksburg Infirmary, is now on leave of absence at New Orleans.

Some one has said that "Confidence is that feeling by which the mind embarks in great and honourable courses with a sure hope and trust in itself." In this healthful mental attitude we approach the annual meeting of our State Medical Association convening at Greenville in May. We have that confidence in our president and president-elect born of association and observations through the years

wherein no worthy trust has been misplaced and we bespeak for them a most successful meeting. We have that confidence in each member of the association "which is a plant of slow growth in an aged bosom," which has germinated and grown luxuriously through the years of pleasant association, broken at times, but ever reviving with each new contact. We repeat, we have that confidence that prompts us to foresee that each member will do his duty in so far as he is able by attending this meeting and contributing his part.

Dr. H. T. Ims, County Editor.

Vicksburg.

WASHINGTON COUNTY

Mrs. Paul Gamble, Chairman of County Park Commission, home from Georgia, says Warm Springs was started six years ago.

Back in Greenville after an airplane trip to Warm Springs, Ga., where she visited the famed health resort along with Dr. F. M. Acree of this city, Mrs. Paul Gamble, Chairman of the Washington County Park Commission, was enthusiastic over the prospects of developing a health and recreation center at Leroy Percy State Park, near Hollandale.

"Warm Springs," said Mrs. Gamble, "was just a summer resort until a man suffering from paralysis swam in the warm water from the springs. A mutual friend informed President Roosevelt of the relief he had secured and the President has also been aided."

"The building up of Warm Springs was started six years ago and the main buildings and pools were constructed two years ago. Patients have come from all parts of the world."

"Two physicians from Checho-Slovakia were recently at Warm Springs. Due to the interest of President Roosevelt in Warm Springs it has become nationally known."

Mrs. Gamble was pleased with her trip to the Georgia health center and was back at her home today. She is enthusiastic over the proposal to make Leroy Percy Park a health center.

It has been pointed out that water from the artesian well at the park is warmer than that of Warm Springs and its chemical analysis compares favorably with that from the famed Georgia resort."

Dr. and Mrs. J. S. Sanders of Leland attended the Pilgrimage in Natchez.

Dr. S. L. Lene, Dr. W. P. Shackelford and Mr. E. S. Clark, Hollandale, were recent visitors to Vicksburg.

Dr. and Mrs. R. A. Haggard of Arcola are now pleasantly located in their new home which has just been completed. They have had as their house guests Misses Nell Worthy, Lucille Haynes and Lillie Peterson.

Mrs. R. A. Haggard and Mrs. Lee Nunnery, Arcola, were visitors to Greenville this past month.

Mrs. W. L. Hay and Mrs. T. L. Dobson, Leland, enjoyed a visit in New Orleans. They were there about a week.

Dr. and Mrs. T. B. Lewis, Greenville, and Mr. and Mrs. Jimmie Franklin, Jackson, motored to Mobile where they visited the Bellingraph Garden.

Mr. Jimmie Franklin, Jackson, was a recent visitor in the home of Dr. and Mrs. T. B. Lewis, Greenville.

Mrs. T. B. Lewis, Mrs. C. H. Fullerton and mother, Mrs. Douglas, Greenville, motored to Jackson where they visited relatives. Mrs. Lewis attended the Chaminade Club, the program being given by her daughter Mrs. Jimmy Franklin.

Miss Evelyn Wheatley, Jackson, visited her sister, Mrs. L. C. Davis, Greenville, and had as her guest Miss Marion Wetherbee, Jackson.

Mr. and Mrs. William Payne motored to Pine Bluff, Ark., and were accompanied to Hot Springs by Dr. and Mrs. Virgil Payne.

Dr. and Mrs. Lamar Arrington and little daughter,

Mary, Meridian, were recent visitors of Dr. and Mrs. John Lucas, Greenville.

Mrs. John Lucas and two children of Greenville motored to Carrollton for a visit with Mrs. Lucas' mother, Mrs. Gee. Mrs. Lucas later attended the Garden Club Convention in Laurel.

Mr. and Mrs. John Bullington and Mr. and Mrs. Fritz Schaa of Memphis were house guests of Dr. and Mrs. D. C. Montgomery of Montbury, Greenville.

Among the number from Leland who enjoyed the Natchez Garden Pilgrimage were Mrs. K. L. Witte, Miss Virginia Witte and Dr. and Mrs. J. S. Sanders.

The many friends of Dr. George Eubanks, Greenville, are delighted to know that he has fully recovered from a recent illness.

Dr. F. M. Acree, Greenville, gave a most interesting address at the regular monthly meeting of the Washington County Parent-Teachers' Association.

The following newspaper clipping is of interest:

"Dr. R. E. Wilson of Greenville, prominent child specialist, addressed a large group of women on the general subject of keeping babies and young children healthy and properly nourished during their early years. His lecture was one of a series being sponsored by the Junior Auxiliary.

"About 30 mothers of children being given medical attention and in some cases food and clothing by the Auxiliary were present for the Auxiliary lecture. He declared that most diseases are preventable and said that all children should be immunized against diphtheria, typhoid fever, small pox and whooping cough. He pointed strongly to the necessity of properly feeding children under two years of age and said that the time is approaching when summer troubles will be developing. Food should be watched more closely at this time and through the summer. Also the speaker warned against signs of impetigo. Dr. Wilson said the best treatment for all illness among children is to give plenty of water, fruit juice and wait for nature to cure them."

Dr. F. M. Acree, Greenville, gave an address on "Heart Diseases" at a meeting of the Washington County Health Council.

Mrs. Paul Gamble, Greenville, was appointed by Governor White as chairman of the State Board of Park Supervisors, a body created by a recent act of the legislature.

Under the act the supervisors must be appointed from the membership of the State Forestry Commission.

There are three members of the board and in addition to Mrs. Gamble the governor named Martin Miller of Meridian and Rupert Johnson of Batesville.

Mrs. Gamble has been active for many years in garden club and park work in the state and took a leading part in the successful movement to establish Leroy Percy State Park in Washington County, which we dedicated last summer.

The many friends of Dr. E. T. White, Greenville, regret to learn of the recent serious illness of his mother, Mrs. J. A. Johnson, Merigold, and are delighted to know that she is greatly improved.

Dr. H. A. Gamble, Greenville, was a visitor to Jackson recently.

The many friends of Dr. and Mrs. J. A. Beals, Greenville, regret to learn of the continued illness of Mrs. Beals. An early recovery is wished for her by all.

Dr. and Mrs. F. M. Acree, Greenville, had as their guests recently Dr. O. W. Hyman, Director of the University of Tennessee Medical School, Memphis, Tenn.

Dr. Vance Murray, Ripley, was a recent visitor to Greenville.

Dr. Chas. Berry, Kansas City, Mo., was a recent visitor to Greenville.

JOHN G. ARCHER, County Editor

Greenville.

WEBSTER COUNTY

The doctors of Webster County are getting a much needed rest from the recent epidemic of influenza.

We are all glad to have Dr. W. A. Berryhill out and working again. He had a severe attack of pleurisy.

We regret the loss of Dr. S. K. Gore of Mantee who has moved to Houston. We are wishing him great success at his new location.

Dr. H. K. Curry, who recently finished his internship at Knoxville, Tenn., has located in Eupora to practice medicine and surgery.

The writer has been out of the practice of medicine for two weeks on account of a car accident but is up and working with no permanent injuries.

Dr. E. F. Arnold, Bellefontaine, is up and working again. He had an attack of influenza.

We are looking forward with great anticipation to a splendid meeting of our state association at Greenville in May.

Let's all go. I have been attending a long time and have never attended one when I did not feel that I was doubly paid for my time and expense.

W. H. CURRY, County Editor

Eupora.

WINSTON COUNTY

Dr. W. W. Parks has been on the sick list, but is out again.

Dr. S. W. Pearson comes out as one among the few who delivered one hundred babies during 1935. Congratulations.

Dr. E. L. Richardson is suffering from neuritis this week; hope he may soon be out again.

Among the visiting doctors in our city recently were Drs. Taylor of McCool, T. C. Suttle of Beth Eden community, C. A. Kirk, L. T. Parks and E. Lovorn, from Fearn Springs community.

I understand that all the surgeons of the G. M. & N. R. Co., of the city, the writer, and Drs. W. W. Parks and E. L. Richardson expect to be present at the Joint Meeting of the Central Medical Association and the G. M. & N. Surgeons at Jackson, April 7. We are expecting a good program.

M. L. MONTGOMERY, County Editor

Louisville.

NEWTON INFIRMARY

Dr. M. L. Flynt is now surgeon in charge of Newton infirmary and Miss Frank Hahn is acting secretary. Mrs. Scottie Kemp having resigned to accept a position in Dr. Marting's Hospital in Ironton, Ohio.

Dr. M. L. Flynt entertained the Newton Infirmiry staff with a turkey dinner at the March meeting. Fifteen doctors were present. Dr. J. M. Campbell held a discussion on "Influenza Pneumonia."

MRS. H. McMULLAN, Vice-President.
Newton.

VICKSBURG SANITARIUM

The regular monthly meeting of the staff of the Vicksburg Sanitarium was held Friday, April 10, at 6:30 p. m., Dr. J. A. K. Birchett, Jr., president, presiding. The program included the following:

1. Supper.
2. Reports from the records department and analysis of the work of the hospital.
3. Report of vital statistics from the Warren County Health Department.—Dr. F. Michael Smith, Director.
4. Special Case Reports:
 - (1) Carcinoma of Cervix Uteri.—Dr. G. M. Street.
 - (2) Cholelithiasis and Choledocholithiasis.—Dr. A. Street.
 - (3) Cys. of Thyroglossal Duct.—Dr. J. A. K. Birchett, Jr.
5. Special Reports: The Recent Southeastern Sur-

gical Congress at New Orleans.—Dr. A. Street.

6. Demonstration of selected radiographic studies:
 - (1) Fracture of Mandible.
 - (2) Fracture of Radius and Styloid Process of Ulna with Anterior Ulnocarpal Dislocation.
 - (3) Subdeltoid Bursitis.
 - (4) Pulmonary Tuberculosis (2 cases).
 - (5) Cholelithiasis.
 - (6) Gallbladder Studies for Discussion.

The next meeting of the staff will be held Monday, May 11.

LEON S. LIPPINCOTT, Secretary.

ABSTRACT: CHOLELITHIASIS AND
CHOLEDOCHOLITHIASIS

By Dr. A. Street

PATIENT: White, female, age 58, married, three children; first observed Feb. 12, 1936.

CHIEF COMPLAINT: Severe colicky abdominal pain in epigastrium and right upper quadrant, radiating to substernal region and left shoulder. Onset four days ago. Colic persisted for eight hours and was followed by soreness in right upper quadrant for two days. There were nausea, vomiting and chilly sensations. Stools have been pale and urine very dark.

PREVIOUS HISTORY: Occasional mild pain in gallbladder region for last five years; thinks there has been slight jaundice at times. Appetite good; no loss of weight. No typhoid. Tonsils have been removed. Menopause at age 38.

FAMILY HISTORY: Father said to have died with cancer; one brother had a "nervous breakdown."

PHYSICAL EXAMINATION: Well developed; adequately nourished. Skin and sclerae clear. Temperature 98.2°F.; pulse 80; respiration 18; blood pressure 122/85. Abdomen of normal contour; no rigidity; liver edge is palpable, not hard. By percussion liver dullness extends one inch below costal margin. Slight tenderness in upper right quadrant.

X-ray studies of gallbladder showed multiple calculi. Cholecystography showed absence of gallbladder filling. Roentgenography and fluoroscopy of chest and stomach and intestinal tract showed nothing abnormal.

CLINICAL LABORATORY: Blood leukocytes 12,900, small lymphocytes 35 per cent, large lymphocytes 6 per cent, monocytes 3 per cent, neutrophils mature 33 per cent, neutrophils, band forms 21 per cent; no malaria found; Wassermann, Kline and Young, Kahn and Eagle flocculation tests negative. Icterus index 6.6 milligrams per 100 cc.; serum bilirubin 2 milligrams per 100 cc. Fractional gastric analysis: no free hydrochloric acid after 45 minutes, 66 at one and one-half hours; total acid 110 at one and one-half hours.

CLINICAL DIAGNOSIS: Cholelithiasis.

PROCEDURE: Admitted to hospital Feb. 20, after clinical investigation completed. Given 15 grains of calcium gluconate in the vein Feb. 20 and 21.

OPERATION: Feb. 21. High right paramedian incision. Gallbladder very large, wall thin, contains multiple stones. Under surface shows old adhesions. Liver of normal color, soft, slightly enlarged, edge slightly blunt. Palpation of pancreas shows it apparently normal.

Common duct is exposed and found dilated to a diameter of 3/8 inch. Forceps passed to region of ampulla and a soft stone removed. Proximal and distal portions of ducts thoroughly explored with forceps and scoop; no more stones found. An 18 F. tube then introduced into proximal end of duct and duct wound closed snugly to exit of tube. Gallbladder then easily removed; common duct and gallbladder fossa carefully peritonealized; abdominal incision closed to exit of drain. One cigarette drain added in abdominal wall only to peritoneum.

SUBSEQUENT: Choledochostomy tube removed on tenth day and three days later discharge of bile had

ceased.

On discharge from hospital, given tablets of 1/100 grain of nitroglycerin to take one on the tongue in event of an attack of common duct colic, an event which is not uncommon during the first few weeks following any common duct surgery. Had one attack of epigastric pain and used the nitroglycerin with satisfactory results.

ABSTRACT: CYST OF THYROGLOSSAL DUCT

Dr. J. A. K. Birchett, Jr.

PATIENT: White, male, age 35.

CHIEF COMPLAINT: Lump in side of throat which interferes with swallowing and is unsightly.

HISTORY OF CHIEF COMPLAINT: Noticed a small swelling above larynx about eight years ago. Told by physician it was a "Wind" and not to worry about it. Lump has gradually grown until unable to button collar and during act of swallowing appears size of egg under chin.

PHYSICAL EXAMINATION: In median line of neck just above and resting on wings of thyroïd cartilage is a mass, size of a lime, which is very hard and is freely movable, there being no adhesions to the skin and fascia anteriorly. During act of swallowing, mass jumps upward and forward toward the submental region where it is readily palpated. No pain felt. Thyroid not palpable; no glandular enlargement.

Heart rate slightly increased, 90; no murmurs. Blood pressure 120/80.

PROCEDURE: A diagnosis of thyroglossal cyst was made because of the situation of the growth and its apparent attachment to the region of the base of the tongue. Surgical excision was recommended and was readily accepted.

OPERATION: Under local anaesthesia a collar incision the same as for a thyroid exposure was made and the platysma incised. Thyrohyoid and omohyoid muscles were identified and retracted which gave good exposure of a firm, glistening fibrous appearing mass deep in the structures superior to the region of the larynx. Patient was told to swallow forcing the mass anterior into wound where it was grasped with forceps and forcibly held while it was dissected free from adjacent structures. The thick walled mass collapsed exuding serosanguinous, jelly-like fluid. This collapse facilitated the removal of the pear shaped sac, the neck of the sac was ligated and the stump inverted into the pharynx after being cauterized with phenol. Two interrupted sutures were placed over the region of the inverted neck. Wound wiped with iodine, closed without drainage.

SUBSEQUENT: Convalescence was uneventful except for some edema which diminished in 24 hours. Wound healed cleanly.

PATHOLOGICAL REPORT: Cyst. Lining tall columnar, cuboidal and flat cells. Wall shows marked chronic, slight acute inflammatory; much fibrosis, some dense hyaline. Some areas degenerating with large granular cells and needle shaped spaces—fatty acid crystals (). Numerous foreign body giant cells. Slight passive congestion. Some interstitial blood. In wall is area of thyroid tissue with colloid and some acini moderately cystic in dense fibrous tissue. Adjacent are some glands, suggesting salivary glands. Slight active congestion.

DIAGNOSIS: Cyst of thyroglossal duct. Chronic, slight acute inflammatory.

DISCUSSION: The thyroglossal duct is the remnant of the communication of the foramen caecum in the base of the tongue and the thyroid gland at the isthmus portion, the thyroid developing from the foramen caecum and as it descends into the neck obliterating the duct. At times the duct fails to become obliterated and a thyroglossal cyst develops. When these displaced remnants contain thyroid tissue they become accessory thyroids.

Median cysts and ducts usually are best treated by surgical excision much more readily than the lateral cysts and fistulae in the neck. The cyst and duct must be removed in its entirety to assure good results and the stump of the neck should be dissected to the base and invaginated into the pharynx to prevent the reformation of the cyst from a small remaining pouch of the cyst wall. Injection treatment has been used to cure this congenital disturbance but this method has been abandoned.

Aberrant goitre is not common and always develops in the deeper tissues adjacent to the hyoid bone corresponding to the thyroglossal duct. There are three groups.

1. Prelaryngeal or subhyoid, rare.
2. Suprahyoid.
3. Lingual.

The examination of tissue removed in this case showed evidence of aberrant thyroid gland tissue. There was no evidence of thyroid toxicity but it is not usual for this misplaced thyroid tissue to undergo toxic changes with its dramatic systemic effect. The presence of this aberrant tissue was a menace to this patient and its removal with the cystic mass was timely for the protection of the patient against thyrotoxic disturbance later.

The aberrant thyroid in this case was in the most unusual location, it being the subhyoid type. Operation in this location is less difficult than in the sublingual or the more common place of location of aberrant thyroid, the most difficult type for which surgical relief can be attempted.

HONOR ROLL

The following have contributed to the Mississippi News Section of our journal this month:

COUNTY EDITORS: Lucien S. Gaudet, L. L. Minor, S. R. Towns, W. H. Scudder, W. B. Dickins, H. B. Cottrell, J. W. Moody, T. P. Haney, H. T. Ims, John G. Archer, W. H. Curry, and M. L. Montgomery.—12.

SOCIETIES: Amite County, D. H. Thornhill; Central, L. W. Long; Clarksdale and Six Counties, Norris C. Knight; Coahoma County, N. C. Knight; Delta, F. M. Acree; East Mississippi, T. L. Bennett; Harrison-Stone-Hancock Counties, Edwin B. Van Ness; Homochitto Valley, Lucien S. Gaudet; Issaquena-Sharkey-Warren Counties; Jackson County, R. G. Lander; North Mississippi, A. H. Little; Tishomingo County, T. P. Haney; Tri-County, R. B. Zeller.—13.

HOSPITALS: Clarksdale Hospital, N. C. Knight; Newton Infirmary, Mrs. H. McMullan; Vicksburg Sanitarium.—3.

OTHERS: Harvey F. Garrison, O. H. Beck, L. L. Minor, G. C. Jarratt, Committee on Postgraduate Medical Education.—5.

GRAND TOTAL: 33.

Your editors thank you.

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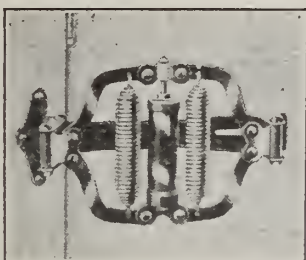
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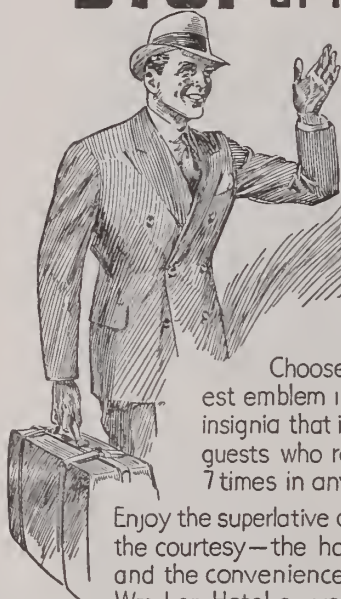
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